



Team White Wolf – User Study Report

April 4th 2017, 8:45 pm MDT

Survey rules and participants' rights

- + You have the rights to not participating in this survey
- + You will be able to remain anonymous (unless you initiate a contact with us and provide us with the survey completion code provided at the end of the survey)
- + You will be able to remove your survey response from our database. By the end of the survey, you will be given a completion code. At anytime (within 12 months after the completion of the survey), you can send me an email to genterist@gmail.com and we will remove the response.
(* Amazon privacy policies will be applied to MTurkers instead *)
- + You will be able to quit the survey at anytime (just close your browser).

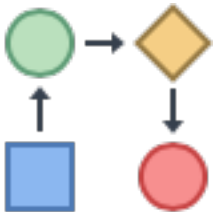
We will also implement some attention check by using questions with obvious answers (to prevent bots) and if you miss those questions, you will not get credit for the survey. A survey completion code will be provided at the near end of the survey. You may stop and resume the survey at anytime no later than midnight of the 26th March 2017.

In case of a failed (attention or bot) check, we will discard your whole survey entry and you will not be able to take the survey again.

Survey methods and structures



THINKING OUT LOUD: Most of the times, during the survey, you will see text boxes labeled "Your thoughts". All you need to do is to type what is on your mind at that moment and the response cannot be less than 50 characters. For example, thinking out loud is when you hear "Chicago", a proper response can be "Deep dish Pizza" or "That is a good musical!" since those are the possibilities in people's mind when they hear "Chicago". If an idea does not ring a bell to you, please also type down your explanations.



SCENARIOS : Some survey questions will be based on scenarios. We will present you the details of each scenario with questions in between. Please make sure you understand the scenario, and you may have to think in someone's else shoes a little bit before responding to a particular survey question.

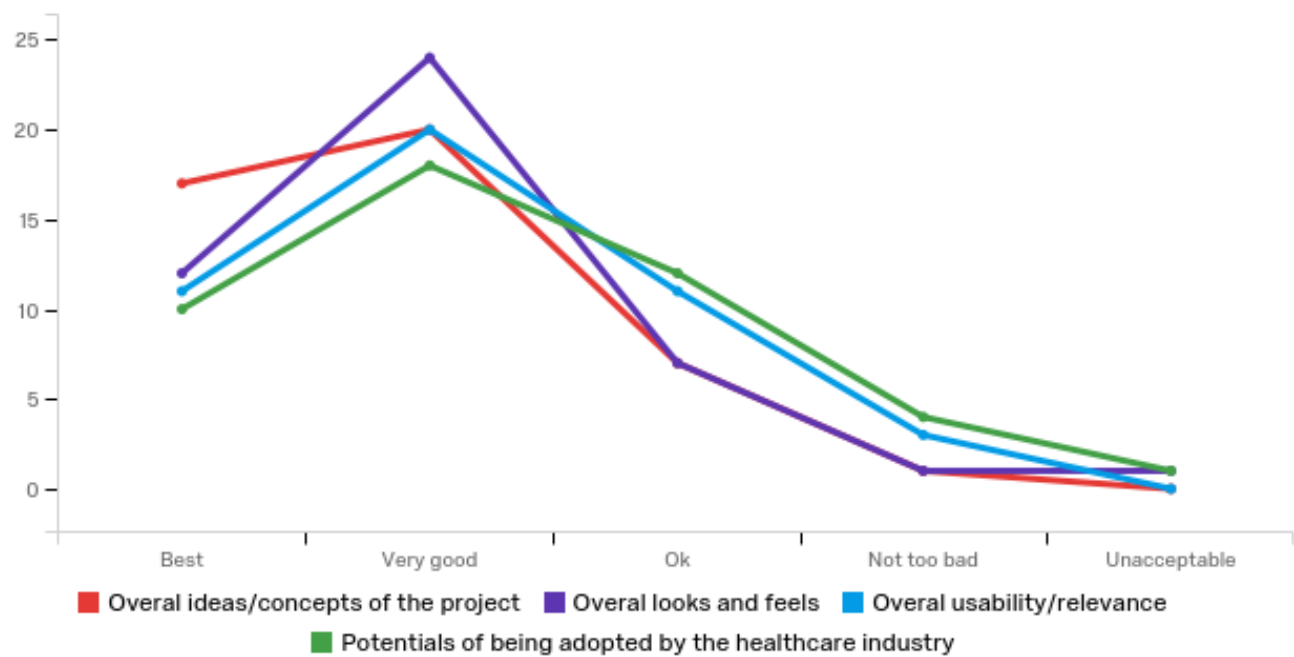
THE SURVEY STRUCTURE :

- 1- The White Wolf project and HAI issue in general
- 2- About the automatic task tracking solution
- 3- About the HAI threat map solution
- 4- About using trends to predict HAI solution
- 5- Conclusion

The construction of this report

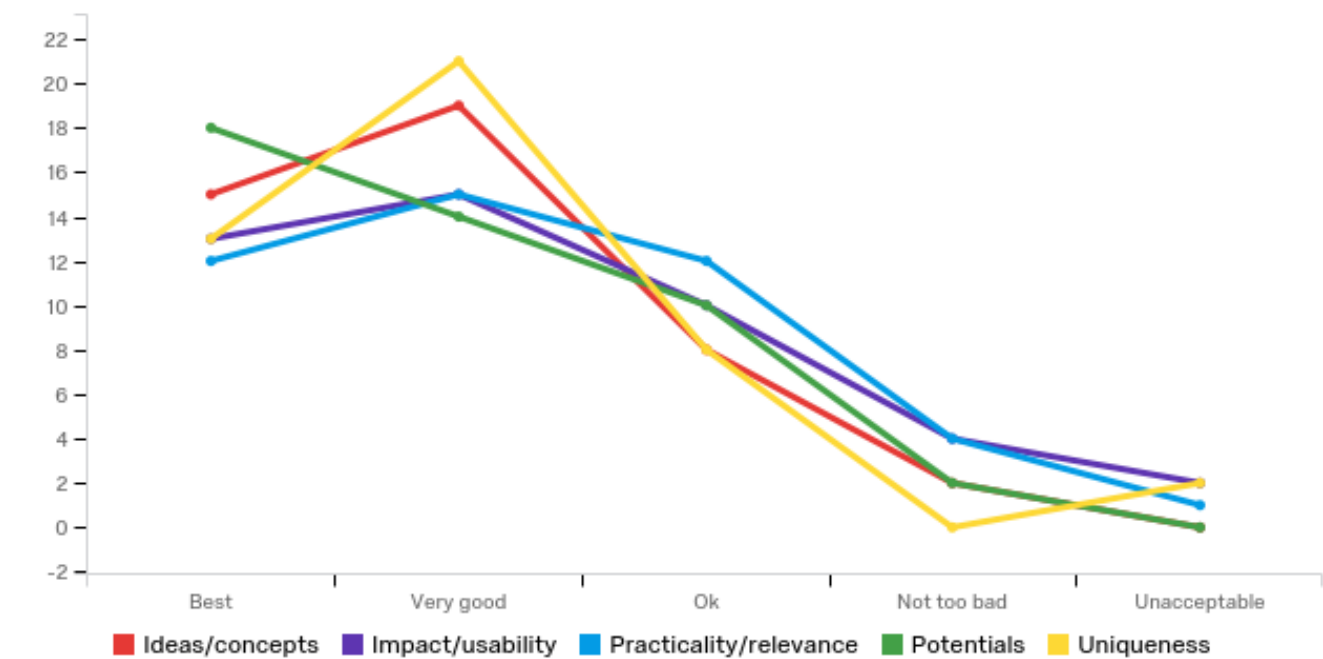
- + 60% of participants are from Amazon Mechanical Turks. 40% are from NCSU CSC510 class
- + Responses were screened one by one based on rules such as: no cut-n-paste, no completely irrelevant response, no offensive language, etc. Some exceptions were made for responses from CSC510 students (for grading purposes)
- + For most of survey question listed in this report, we provide a text cloud and a sentiment analysis provided by IBM Alchemy engine (<https://alchemy-language-demo.mybluemix.net/>). Within 3 seconds, what you can see from the text cloud is the general agreement among users' feedbacks for that question. The "target" in the sentiment analysis are top 8 topics identified by IBM Alchemy engine with corresponding "type" and sentiment score. We only recommend you pay attention to target with sentiment score from 0.6 to 0.9. The text cloud and sentiment scores are subjected to different interpretations from different survey report viewers.
- + Our team's subjective deeper analysis of this survey "thinking out loud" responses will be published in our project's paper to be uploaded to the project repository at <https://github.com/genterist/whiteWolf>

General Project Ratings



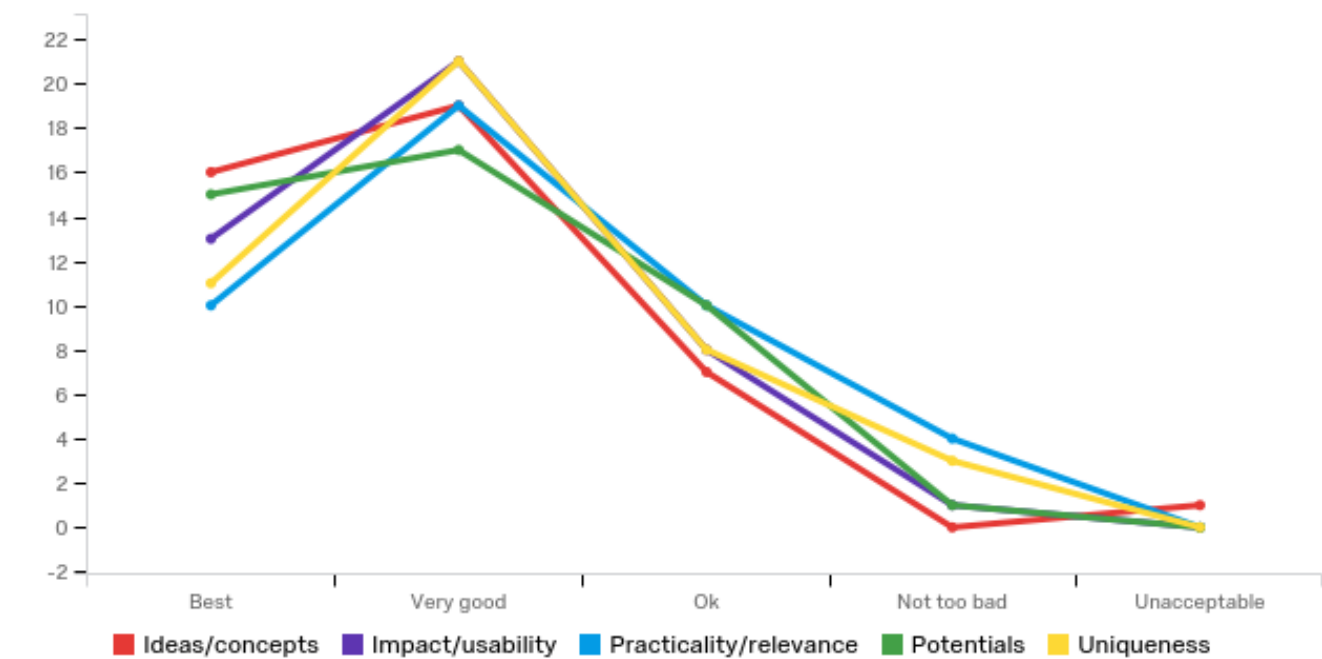
#	Question	Best		Very good		Ok		Not too bad		Unacceptable		Total
1	Overall ideas/concepts of the project	37.78%	17	44.44%	20	15.56%	7	2.22%	1	0.00%	0	45
2	Overall looks and feels	26.67%	12	53.33%	24	15.56%	7	2.22%	1	2.22%	1	45
3	Overall usability/relevance	24.44%	11	44.44%	20	24.44%	11	6.67%	3	0.00%	0	45
4	Potentials of being adopted by the healthcare industry	22.22%	10	40.00%	18	26.67%	12	8.89%	4	2.22%	1	45

"Automatic check list" ratings



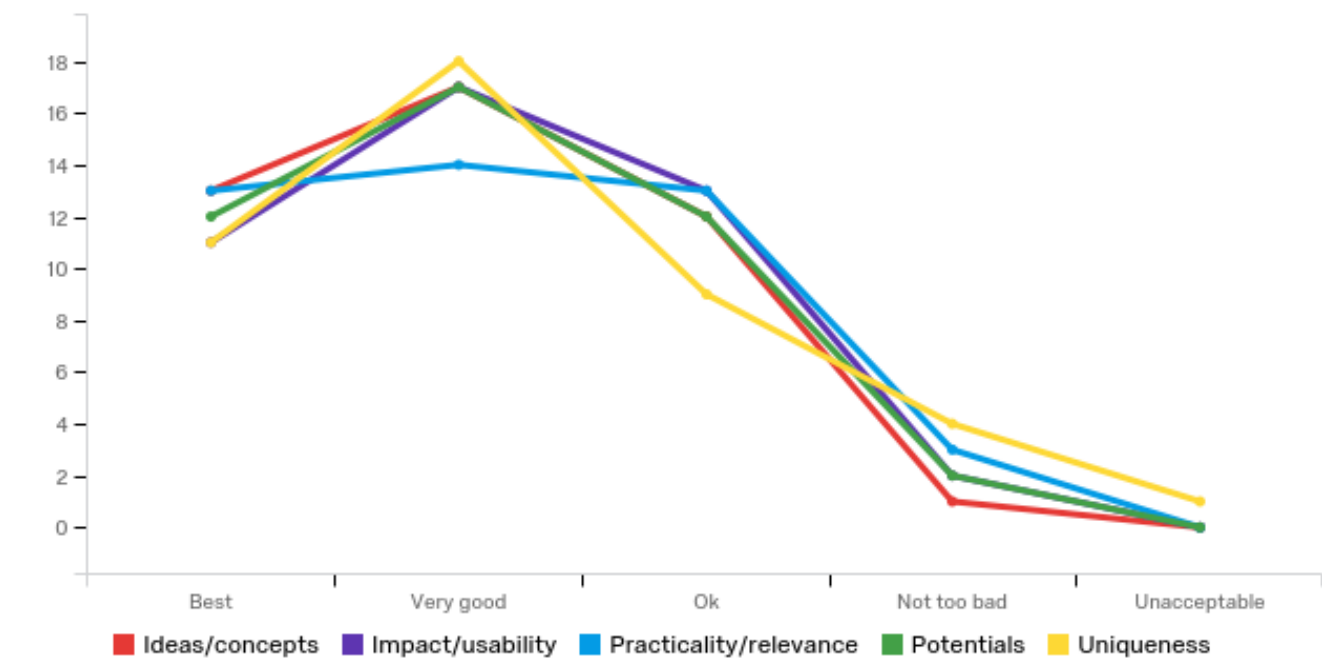
#	Question	Best		Very good		Ok		Not too bad		Unacceptable		Total
1	Ideas/concepts	34.09%	15	43.18%	19	18.18%	8	4.55%	2	0.00%	0	44
2	Impact/usability	29.55%	13	34.09%	15	22.73%	10	9.09%	4	4.55%	2	44
3	Practicality/relevance	27.27%	12	34.09%	15	27.27%	12	9.09%	4	2.27%	1	44
4	Potentials	40.91%	18	31.82%	14	22.73%	10	4.55%	2	0.00%	0	44
5	Uniqueness	29.55%	13	47.73%	21	18.18%	8	0.00%	0	4.55%	2	44

"H.A.I Threat map" ratings



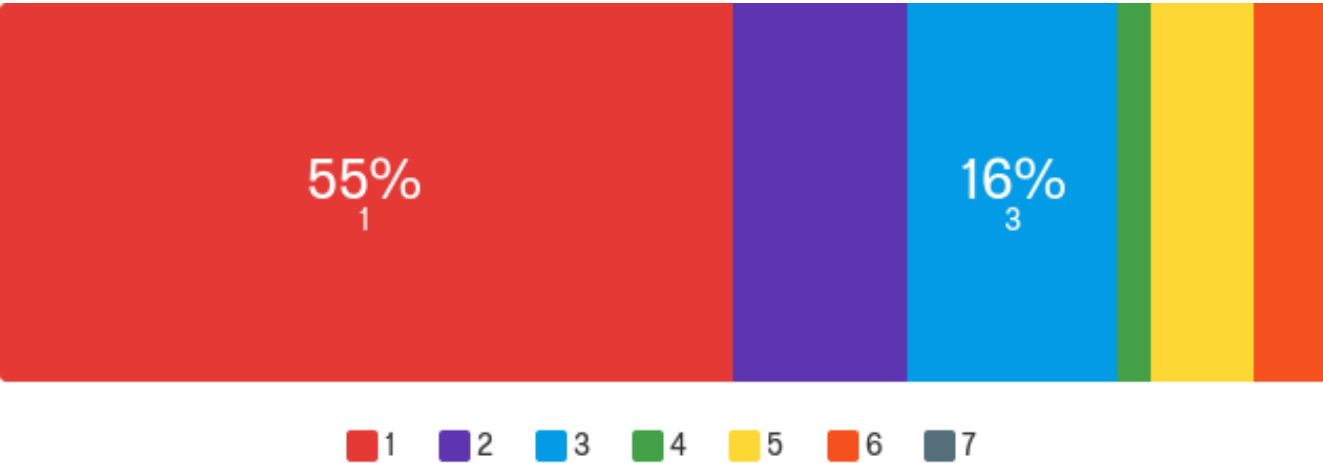
#	Question	Best		Very good		Ok		Not too bad		Unacceptable		Total
1	Ideas/concepts	37.21%	16	44.19%	19	16.28%	7	0.00%	0	2.33%	1	43
2	Impact/usability	30.23%	13	48.84%	21	18.60%	8	2.33%	1	0.00%	0	43
3	Practicality/relevance	23.26%	10	44.19%	19	23.26%	10	9.30%	4	0.00%	0	43
4	Potentials	34.88%	15	39.53%	17	23.26%	10	2.33%	1	0.00%	0	43
5	Uniqueness	25.58%	11	48.84%	21	18.60%	8	6.98%	3	0.00%	0	43

"H.A.I Trend Inspection" ratings



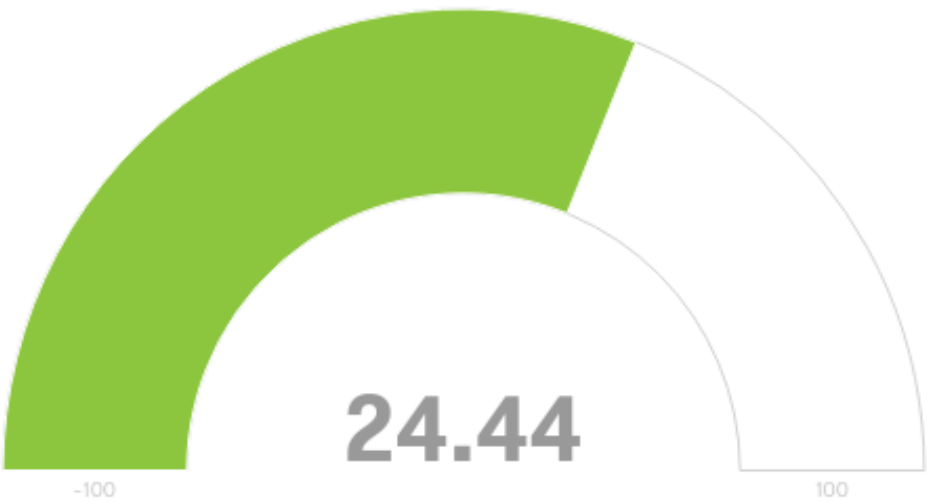
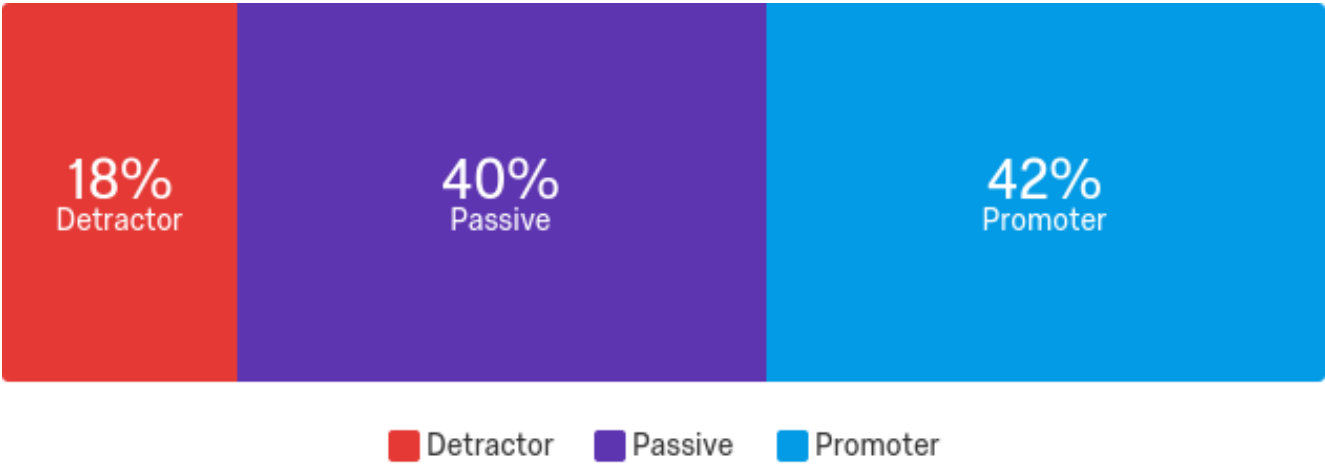
#	Question	Best		Very good		Ok		Not too bad		Unacceptable		Total
1	Ideas/concepts	30.23%	13	39.53%	17	27.91%	12	2.33%	1	0.00%	0	43
2	Impact/usability	25.58%	11	39.53%	17	30.23%	13	4.65%	2	0.00%	0	43
3	Practicality/relevance	30.23%	13	32.56%	14	30.23%	13	6.98%	3	0.00%	0	43
4	Potentials	27.91%	12	39.53%	17	27.91%	12	4.65%	2	0.00%	0	43
5	Uniqueness	25.58%	11	41.86%	18	20.93%	9	9.30%	4	2.33%	1	43

Ranking of factors that contribute to the spread of HAI's.



#	Question	1		2		3		4		5		6		7		Tot al
1	Patient illness (reason for being in the hospital)	55.26 %	2 1	13.16 %	5	15.79 %	6	2.63 %	1	7.89 %	3	5.26 %	2	0.00 %	0	38
2	Patient age etc. (Patient demographics)	10.53 %	4	23.68 %	9	15.79 %	6	5.26 %	2	18.42 %	7	10.53 %	4	15.79 %	6	38
3	Patient medical history	2.63 %	1	15.79 %	6	26.32 %	1 0	18.42 %	7	13.16 %	5	15.79 %	6	7.89 %	3	38
4	Number of visitors the patient receives (friends/family)	2.63 %	1	5.26 %	2	13.16 %	5	31.58 %	1 2	10.53 %	4	18.42 %	7	18.42 %	7	38
5	Length of stay in hospital	10.53 %	4	7.89 %	3	10.53 %	4	15.79 %	6	21.05 %	8	18.42 %	7	15.79 %	6	38
6	Number of times a nurse visits the patient	7.89 %	3	7.89 %	3	7.89 %	3	10.53 %	4	15.79 %	6	28.95 %	1 1	21.05 %	8	38
7	Type of procedures performed on patient (examples: iv, catheter, transfusion)	10.53 %	4	26.32 %	1 0	10.53 %	4	15.79 %	6	13.16 %	5	2.63 %	1	21.05 %	8	38

It is better to predict HAI than to wait for lab results/ forensic investigations before taking correction steps.



Based on our research on Healthcare Associated Infections (H.A.I), we have 3 conclusions:

1. We need to change the culture of how we perceive and react to HAI. Instead of confirming (the existence of) HAI, we need to focus more on predicting HAI. With prediction and early prevention, the chance of being investigated and/or being sued is much lesser. With that as an incentive, we believe people will be more willing to participate in the data collection process. In a long run, it will also increase the speed of patient flow resulting in higher revenue for the institution and lesser work load for nurses. Your thoughts:



Target	Type	Sentiment
hai	positive	0.0242924
HAI dangerous region	negative	-0.619086
Prediction HAI	positive	0.278717
people	negative	-0.2147
prevention	negative	-0.343571
proper prediction tool	negative	-0.373755
Finding data patterns	negative	-0.315223
Healthcare Associated Infections	negative	-0.449943

The first thing comes to my mind is data mining. Finding data patterns of where, when and how HAI happens, then people can avoid the HAI dangerous region or actions.

True. Healthcare Associated Infections have probably not been taken that seriously. It will reduce the workload for the nurses and make their work environment easier.

Absolutely correct! I think always that is the case and prevention or trying to predict the risk is less expensive than curing!

Prevention is always better than cure. I feel like the problem at hand is a great one. I also believe that it's a difficult one to solve. It can be stated without any doubt that predicting an infection before it happens is probably the best solution to HAIs but also think it is something that's difficult to accomplish.

I think your thought is good. It is a good and efficient way to focus on predicting. If the predicting works are done perfectly, then it is quite possible that little people will suffer from HAI. So using this as an incentive is a good way to start data collection process.

The approach seems really helpful as it is about prediction before the actual occurrence.

I agree. But would you be 100% sure that your prediction is correct?

Participation is a big aspect of collecting data. People does not have time or do not think it is important. Incentives plays a major role, people are busy they will not allocate time to such surveys. Yes incentives will allocate data resources and will allign them together.

the idea looks good. Prevention is always better than cure. and the early we predict the more we can minimize the damage.

People can only help you if you give them a good reason to help like tell them it can, someday in future, maybe able to help them.

With that as an incentive, we believe people will be more willing to participate in the data collection process. In a long run, it will also increase the speed of patient flow resulting in higher revenue for the institution and lesser work load for nurses.

What exactly are HAI? I wish there were some examples. How can we predict HAI? Will predicting HAI actually help with preventing HAI?

This conclusion makes sense. By eliminating the time and resources spent in the aftermath of discovering the existence of HAI, healthcare would be cheaper and more efficient. Have there been extensive research and studies on predicting HAI and methods to do so? The only concern would be the accuracy of the prediction. If prediction is wrong, it would lead to making wrong decisions which would have the opposite of the intended result.

This is an ongoing problem and if there is a proper prediction tool. It will help alot.

I agree. With proper and early prediction, we can actually improve the HAI-related issues and establish a better healthcare system.

I agree. I think with most diseases that prevention and prediction of who might have or get the disease is the most key function. I wish that there was some information about what HIA stands for.

Sounds like a noble cause. Anything that will get patients out of hospitals quicker is a good thing.

If it won't affect nurses or doctors' procedure to do treatment too much, I think it'll get a lot of participants.

Good, HAI is spelled out. Yes prediction would be good, I know of 2 family members who got staph infections while having surgery for something else.

I think Hai will try hard and receive medals

Seems like a fair statement. Prediction is more useful than confirmation.

Prevention seems to be definitely the way to tackle the problem, since there is little you can do once the infection spreads

Prediction HAI is important, but I feel like not confirming the existence is way worse.

I feel happy and excitement when I hear Disney land

I agree with the thought that focus should be on predicting HAI

Funding and people with experience is the key here. Ready have the motives set in place, just need to take the action to get started.

I think there need to be mandatory courses on HAI. It is surprising how many nurses don't know about general hygiene practices and thus inadvertently put patients, as well as themselves at risk.

We should take precaution before they face problem .we should take prevention from before.we should do investigation n nurses should take precaution .the higher revenue should be spend more n more investigation should be done .the patients should also take part in the collection process so that nurses faces less work load n can prevent their health from disease that are viral.

i agree with work smarter, not harder. I am an adaptable person for the most part. When I see that something isnt working, i try to find a solution to the problem that may work better. I appreciate that this study may take added pressure of of nurses.

that is potentially true. but other considerations should be thought about. such as healthcare insurance and liability.

Prevention is always the best way to keep bad things from happening. It is impossible to foresee everything with HAI, but with the information that has been collected, the attempt to properly predict HAI can continue.

Absolutely right. I focus this predicting HAI. No problems.

HAI seems like it hurts a lot of people. Whatever it takes to keep it from occurring should be done.

I like this. As a nurse I try my best to prevent infections instead of just curing it. Kind of like prevention is better than cure.

Improving HAI and increasing the results

Good progress in treatment of the patients who are suffering.

seems useful and helpful for who ever is involved

HAI is a new term. Looks like interesting. Hope i will get some details in the survey.

I support with this statement as I to think like through early prevention and prediction of HAI we can regulate the cause of HAI been spreading to more people so that there will be less work pressure for the nurses

If the outcome of this data collection will be positive improvements, then why wouldn't people want to participate?

Predicting is good to start but we have to find out the actual cause of HAI and why this disease appear suddenly, who are the beneficiaries of these kind of virus/disease burst.

I believe that The structure at hand seems to work best for patients as they have patients who are always in need of something.

I am totally support the above statement, since it provides a good conclusion

Okay, but how do we predict it? am i expected to read the research?

IT MIGHT BE WORK BUT THE CONCEPT OF THE IDEA MUST BE IMPLEMENTED WITH SOME NEGOTIATION

Contextual data can help nurses think statistically

2. Instead of statistical data, we need to focus more on gathering contextu...

Agree with your conclusion. Collection of contextual data seems to be the right way of approach in this case.

Context is important. It is a great approach to the problem provided that the results are accurate. Any error in the results being used in the real world can cause big problems. A court case can possibly be swayed based on the accuracy of these predictions and use of contextual data. It also opens up some room for fraud and deception.

Yes I agree that contextual dat can be more helpful than statistical data.

I disagree. Statistical data plays a vital role. Contextualizing data is just a less significant way to do such projects.

yeah you are correct in this regard. This will certainly ease the process for nurses and help them in legal matters.

It is not necessarily true because some times people are emotional and say some thing that out of control, minutes later they may regret and hate what they said. Therefore, I do not think it is easy, but The policy makers will be able to make adjustments to policies and work flows. Helpful contextual data may also help nurses to defend themselves in court case is true

What do you mean by contextual data? How is it different from statistical data exactly?

Not exactly sure what contextual data would contain but the basic argument semms correct. Pure numbers cannot give the whole picture. Context can also help with understanding the reasons for why and how HAI occurs.

Sounds interesting. But not entirely sure how will prediction be done by contextual data.

Not quite sure about the statement "it is not harder to design a system that can identify abnormalities in contextual data when compared to a system designed for statistical data." but can agree with the fact that context will provide a much clearer view

I think that many different factors of data should be evaluated. I think then when health is at risk that you should always consider both contextual and statistical data. I dont think that excluding one form of information is going to be beneficial but i think if it would help the nurses defend themselves in court that it is necessary.

Contextual data is important to the deeper analysis. Statistics don't mean much alone without it.

I think it will be most beneficial to collect statistical data in this case since it's people's health we are dealing with here.

Context makes a difference long-term to prevent these things from happening or stopping them from spreading.

Yes, I agree. some question and work need to focus . And contextul data is very important

I'm not quite sure I follow this logic. Are we giving healthcare providers excuses for when they make mistakes?

I guess the type of disease, and existing infrastructure at a medical institution matters while collecting data. So yeah, contextual data seems fair.

Statistical data is definitely helpful, but it should be in the benefit of patients, not to benefit stakeholders.

I'm going to Disneyland to have some fun and rides

Statistics are just figures, actual scenarios must be studied.

Having the writing style setup insures everyone is ok when needed. Need the data for people's protection.

a foley that has been dragged on the floor and then implemented with the patient should never be done, no matter how high stress the situation is. It should be automatic that a nurse avoids contact with the floor at all costs as it is the place where most infections come from. And yet it is shocking how many times I have seen this happen in the workplace.

We should gather information n contextual information so that we can prevent the nurses from the diseases .it also help nurses from a court cases .if with proper information n understand the context of the incident will be very beneficial for the individual n fir the nurses .

better wording intake forms or repeating questions to jog the memory of patients throughout the interveiw or intake process seems smart. to my knowlege, nurses arent required to carry insurance like a physician does, nurses should have that option as well

That is true. You can consider realtime feedback like a crowd sourced information base.

Understanding context means everything in situations like these. Sometimes, statistical data is difficult to fin meaning for unless the context for such data is available.

100% this is helpful. This is relly Helpful contextual. Others thing is may also help nurses to defend themselves in court cases.

Finding out what situations can lead to infections sounds like it would be a very good solution.

It would be okay to base it from contextual data but I think there are a lot of physical evidence and information regarding HAI's to base it from too. But that's okay too

yes data is required but, protectiveness is important.

Stress relief activities should be encouraged nowadays mostly, it should come to practice soon formally.

I think it will be useful in the future and now when it comes to data problems

Statistical data designed i have heard. Is it possible to develop a system that identify abnormalities?

I worry whether it can be practical because it is not that easy to collect contextual data, and I truly doubt this move

When it comes to medical decisions we should really rely more on actual data that has been carefully collected.

Statistical data is also as important as contextual data, we can also keep some historical data of such kind of the virus outbreak

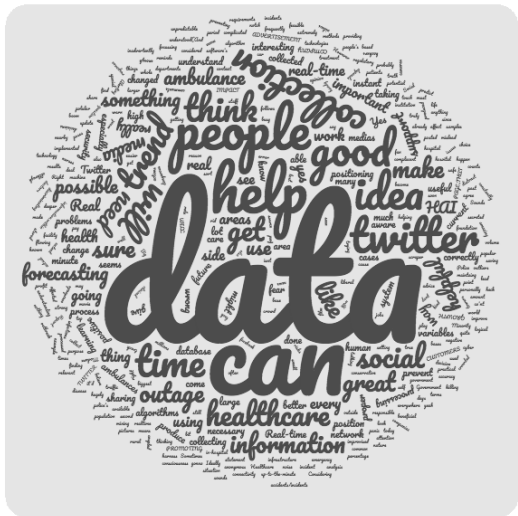
I think its good that policy holders can look at the data and better understand it. Its nice to be able to have all the information in front of you to make your own conclusion on what to do next in any type of scenario.

Yes it will be very helpful for understanding problems

True, I think data should always be viewed in context

TO BE ESCAPED FROM COURT CASES BETTER SHOULD BE INCLUDE THE TERMS AND CONDITIONS

3. We need to focus on real-time data collection, data sharing and data processing. Each and every second, there are million of usable data floating around both inside and outside an institution. What if up-to-the-minute police's incident database can help with the positioning of ambulances for possible cases? What if a twitter trend can help with forecasting a healthcare outage? Your thoughts



Target	Type	Sentiment
data	positive	0.321477
real-time data collection	positive	0.689514
real time data	positive	0.643025
social media	positive	0.742761
twitter trend	positive	0.486932
twitter trend help	neutral	
good idea	positive	0.647425
healthcare outage	neutral	

3. We need to focus on real-time data collection, data sharing and data pro...

How to get instant data? I mean, in an emergency, people are busy getting rid of dangerous or helping other people. If many news or comments are posted on twitter, I believe the government or responsible departments are already taking actions. To get instant data, do we need people have the consciousness of sharing data in some situation. Or there are some people work on it. Or we have some methods to analysis information like pictures or videos taking by cameras.

The choice of the twitter trend help in forecasting the healthcare outage seems logical, Considering the social network boom in the current days.

That seems very interesting but finding and discriminating between actual data and outliers and noise would be so complicated, in my opinion.

There is more data being produced every minute than we know what to do with. I like the idea of being able to make good use of social media to prevent health issues. The question again is about the accuracy of this data. If your system can correctly harness this data to produce good results, it'd be a great thing.

In the current time, data is changed very frequently. It is quite common that people's understanding of a special thing can be changed in a small period. So focussing on real-time data collection is really a good idea.

Social media can be extremely helpful as it is used by most of the people today.

That's a good idea, but how are you going to process such a large amount of data?

Real time data coupled with data mining will probably work great.

In this world of connectivity real time data can be a good source of information but we must be able to find which data is important and which is not.

I don't think so that's gonna happen because these companies does not pay much attention to things which is not going to produce profit for them.

What if up-to-the-minute police's incident database can help with the positioning of ambulances for possible cases? it would be good but has to be safe and secreted. What if a twitter trend can help with forecasting a healthcare outage? Sometimes it may be true but we need deeper learning

I agree. real-time data collection on people would be great but it poses a lot of security risks if that data is not anonymous.

Yes. Ideally real-time data collection would be hugely beneficial. But need to make sure we are collecting the right data and processing it correctly. Too many variables can distract and mislead from the truth.

A lot of data is flowing at a time. Not sure how will that data be collected and processed.

I like the idea but I am not sure if its practical enough. What I understood(And I might be wrong) is that you want to use past data samples of accidents/incidents and predict the future requirements based on that but the very nature of incidents, especially in terms of healthcare is unpredictable.

I think that is an amazing idea. I think technology has done nothing but help response times and healthcare support. Real time data is very helpful with providing life saving car to those in need especially is high volume or crowded areas.

That sounds like it would be a heck of a database if you are constantly collecting data. How would it be stored.

Real time is the way to do it, since every minute counts.

I understand the idea of using data to help with positioning of ambulances for possible cases, although I am not sure how feasible this is in rural areas where there is only 1 ambulance. The twitter trend is only useful to people who are on twitter. There is a very high percentage of the population that is not on twitter.

I think popular is very important . You can share , do and improve but it is not polular , you ca'nt do anything

Sounds good. The more information the better decisions are made.

I don't get how the position of an ambulance, as in example above is relevant to preventing HAI. As for HAI, it is important to know if there is a known outbreak of disease in the nearby area. So yeah, real time data collection should help!

That's a great idea, but cyber security would have to be top notch or else hackers can change data, which can lead to doctors doing the wrong thing and inadvertently killing patients.

Police can track the traffic on their system. They can help the ambulance and give advice better way.

Modern data collection software's will come handy for doing these jobs

Big data bases can cause overloads and problems. And yes, it can have an positive side, such as really helpful information.

What are you talking about? What does an ambulance position have to do with in-hospital infections?

There should be data collected with proper sharing n data processing which help in maintaing of proper hosoital n treatment .if the social media like twitter can help in forecasting a health care outage which wilk make people aware of the context n give them more information.within the institution n outside on both the side we should aware them of health care outage which will prevent the staff .

as seen on Twitter or on facebook when people are trying to get something to trend, most often it depends on what the crowd follows. the conservative base isnt going to see something that the liberal side would see trend, because of those algorithms. with in the hospital or clinical setting, i am sure that you could use algorithms to sort or make something trend, but i fear that it would get lost in the feed as well. human error to become complacent i fear is the biggest reason.

You can use a scraper or a machine learning algorithm to process the information

Real-time data collection can be very useful. I'm thinking of it in a negative way, because it reminds me a bit of the film Minority Report. The whole purpose of the movie was to warn against future technologies that lack human touch.

I think can twitter trend help with forecasting a healthcare outage. Right decision.

Alerting people to potential problems could be helpful but they might panic if they don't understand what the data means.

This would be great! as it is possible that these variables that affect the HAI change every second

It is possible and can be done yes real time data is necessary then only nurses will get the update

Healthcare should be improvised by the Government and come to regulatory point.

very interesting and something i see my self using

Twitter!!! I dont think it will do any help to deal with this.

yes I truly support with this statement because social medias can help to a larger extent to collect data as there millions of people using social medias which make data collection much easier

I still think that data should have a strong foundation before it is considered, because who is to say that it will work out?

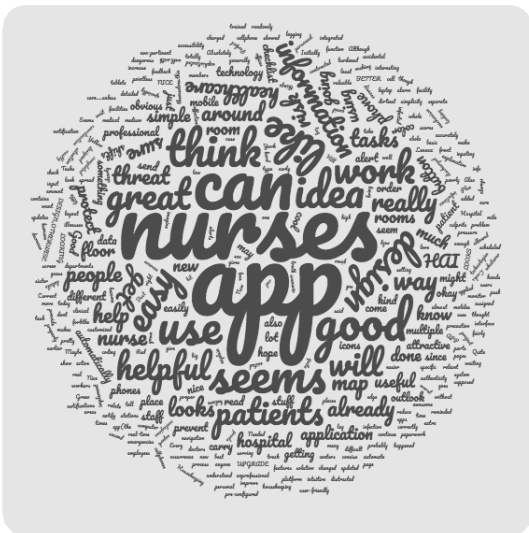
Yes it good idea, but we need to also look if the areas that area affected, have that kind of facility or network towers available.

I personally am not a fan of twitter. However, if social media can play a large yet, positive role in healthcare then I am all for it.

Real-time data collection is a very good idea, it should be implemented soon

why not, but can everywhere really support the infrastructure necessary for realtime?

BY PROMOTING THE ADVERTISEMENT ON THE TWITTER PAGE, THAT WILL BE IMPACT ON THE GROWTH OF THE COMPANY BY SOME CUSTOMERS



We have a mobil app for both Android and iOS (iPhone) devices. Where n...

Current scenario goes well with the amount of cellphone users. Also, cellphones are easy to carry around and provide good accessibility.

The app looks fairly intuitive in design and seems like a good idea if the data on the app is updated in real time and without lag. It seems like a good way to automate alerts and notify staff about emergencies.

From the pages of your app(the outlook and the design), I can see that your design is quite concise and I think your app is easy to use. So totally this kind of design and outlook is pretty good. And since tasks can automatically changed, nurses can get real-time tasks, which are very good.

The threat map seems to be helpful to the nurses, to get the details threat.

OK. How does threat map relate to the risk of HAI? How can this prevent the occurrence of HAI in the hospital. Maybe a more detailed explanation can be added here.

The design of the app is great. The icons and the simplicity of the different parts makes it very attractive to me. I think it is great for healthcare professional and the people who will use it.

Looks easy to use and can be of great help in in coordination between multiple personnel.

Its a very good platform and will help understand the process easily.

The thought is very good but the problem is how we can get these information correctly and accurately. Plus, I do not think it is really a good idea to implement this using mobile app, if you are just making for the project, it is ok. Tasks might seem pointless, the nurses probably already know what to do. The room idea seems like a really cool idea.

The app would be very helpful to healthcare workers.

I am not sure if the tasks assigned to the nurses on the application is supposed to be done in order or randomly.

Quite user-friendly, but has to be pre-configured for each separate healthcare facility and nurses should be trained properly to use it

The app is great. I have a sister who is a nurse and she is always on the move. I think that having something like this in place to help her check on patients and rooms would vastly increase patient care and decrease waiting times.

Does it send push notifications to alert about dangerous areas? does it send a notification to alert you to a new task? that would go the extra mile to make sure people are looking.

It's simple, but the tag contains too much info on the second page, it's hard to read

How does this work? Does it rely on humans to input this data? If so, the nurses are already burdened with paperwork with patient care....unless this is automatically integrated into whatever system the nurses are already inputting information. What about housekeeping? Housekeeping is charged with logging in and out to show which rooms are done and what has been done.

Good app about scheduled But I hope you can improve the color and design of app

Seems good. Although I am not sure if we want nurses to carry around their personal phones all that much. They may get distracted with other non-pertinent tasks (I know I would). Most nurses do seem to have tablets though, but I am not sure what OS they use.

It should be helpful, since the employees would work in shifts. It should be any easy way to get updates on what happened in earlier shifts. Should avoid a lot of accidental HAI

Good idea, but wash hands should not be something they have to be reminded of.

Green button is low risk , Yellow button is medium risk and Red button is very high risk rooms.

The mobile application looks cool. I is great idea.

Needed for the people using the app. And gives me information so i know what's going on.

The nurses themselves are generally the culprits. What are you going to do, map the dirtiest nurses? In the case of patients who have come into the hospital with contagious illnesses such as ebola, yes, this would be effective. But the truth is, most infections come from less obvious sources. How can you explain that in Lennox Hill hospital in New York, almost all of the patients on one floor contracted the same infection, and that patients were

discharged early to protect them from getting infected as well? It was obvious spread from room to room by a specific nurse.

This app will be very helpful for the staff members to prevent themselves and protect themselves from getting the disease. They can take precaution while serving the patients. If proper information is given to them they can protect themselves. This app will be very helpful for the staff.

It seems simple enough, could this app be customized per floor or clinical setting in order to work with multiple departments?

I like the color coding and navigation. That said a healthcare professional in the ER or nurse type places will be more valuable feedback

Initially, I imagine a whole floor of nurses on their phones. It scares me a little to think that people can become so reliant on technology. Hospital facilities today have nurses stations with computer. Every nurse uses a laptop.

Absolutely right. All features are okay. I really like all of this. I think now continue this.

I think it would be really helpful to nurses to have all that information in front of them and easy to monitor. It would also be great for the patients.

I like this idea. But I don't think it's going to be easy using these apps or my phone or what when I'm at work. I guess it's okay. I just bring too much stuff around to have the phone around with me. Also it might look unprofessional

Perfect way, Best solution and easy to use for new technologies

Nice and useful app for anyone who are in active work, awesome, superb.

seems a bit difficult but useful for many different things

looks like a great app. This would do a lot of goods to nurses.

I am really excited with the new technology and I hope nurses can work more easily that their mobiles tell them what they have to do and what all they have completed

The layout of the app is way too simple to be attractive for use, and if it was more sophisticated in design it would be easier to use.

This is very nice app, specially the checklist and the threat map. If there is some way we can track the authenticity of checklist, then it will give the edge.

I love this idea! I can't believe it has not already been applied to all doctors offices and medical centers!

These kind of application reduce the work pressure of nurses

it seems very basic at best, and poorly designed at worst. at least it has nice icons

LOOKING NICE BUT IT WOULD BE UPGRADE IN THE DESIGN, OTHERWISE THE APP LOOKS BETTER

ROOM 3

ROOM 4

ROOM 1

ROOM 2

ROOM 5

THREAT LEVEL:03

ILLNESS:10

AGE:0

LENGTH OF STAY:8

NURSE VISIT:30

VISITORS:0

LINNENS CHANGE:8

LAST CLEANING:0

DEVICE WARNING:4

BAYLOR SWIFT

ROLE: NURSE

ROOM: 1

MISTI MINAZ

ROLE: NURSE

ROOM: 2

MATT XAVIER

ROLE: NURSE

ROOM: 3

LANCE WARMSTRONG

ROLE: NURSE

ROOM: 4

TOM NGUYEN

ROLE: DOCTOR

ROOM: 1

HELENA GOMEZ

ROLE: NURSE

ROOM: 5

Task 1 : Monitor patients' fluid intake and output

Task 2 : Administer medications intravenously

Task 3 : null

Task 4 :

Raleigh hospital

4 entries

Reset

Google Trends

(In 3 years)

Trends!

flu

Search Interest

110

88

66

44

22

0

Mar 23

Mar 30

Apr 6

Apr 13

Apr 20

Apr 27

May 4

May 11

May 18

Mar 29

Apr 5

Apr 12

Apr 19

Apr 26

May 3

May 10

May 17

May 24

2014

2014

2014

2014

2014

2014

2014

2014

2014

22

30

32

30

28

26

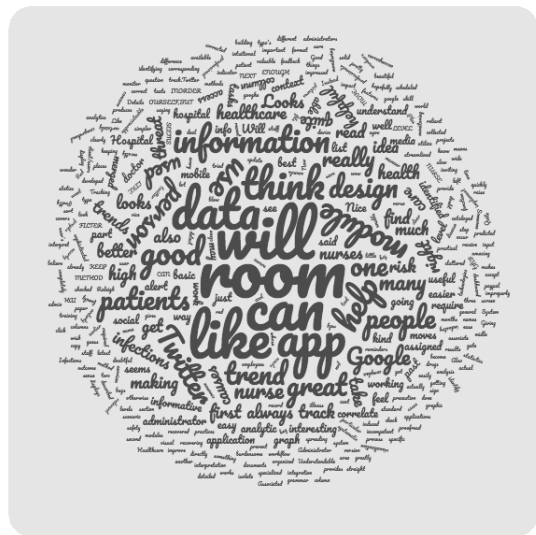
24

22

20

Time

FusionCharts XT Trial



Target	Type	Sentiment
google trend module	positive	0.732295
app	positive	0.375324
Twitter analytic module	positive	0.704418
room	negative	-0.177392
social media	positive	0.662971
data	positive	0.380282
high risk	negative	-0.797739
Healthcare Associated Infections	negative	-0.797739

We also have a more detailed dashboard for Healthcare Administrators...

What is the difference between the mobile app and the dashboard version? Will it have the alert function?

The use of RYG analysis fits this scenario very well. Also, integration with Google and Twitter trend works as it projects the data in a visual format.

It seems that I have not got you completely about the Twitter in this context. I wish you had described it more clearly! Who is the client/users of this Twitter module? Only the staff? How is the design of access levels?

Like i said before, I really like the idea of making use of social media trends to applications like these. I feel like the interpretation of this data would be key. If the context produces the correct predicted outcome, it would be amazing. The question here would be how reliant would this application be on the user's level of skill. Would they require some sort of specialized training to understand, interpret, and use the data available from the app ?

Your design for this part is also pretty good. It is quite beautiful and people can get what they want to know directly. And the graph is quite intuitional. I think this graph part is a good design. In many cases getting data from the graphs are much more easier than from the texts.

Through all three columns, the user can receive the risk nearby and the name of the person working in that.

Twitter analytic module and the Google trend are cool. What kind of information will be collected by those two modules?

Details and ease of use is important and your application has both.

Good idea to implement trend module. great way of monitering.

Nice work done. It will certainly help understand the process

On the left collumn, there are room names with corresponding HAI threat sign. Red means a very high risk of Healthcare Associated Infections. System administrators can click on the room to read more room statistics to quickly identify the causes. The midle collumn displays a list of healthcare workers with the room each person is in, the tasks assigned for that person for such room. If the person moves to another room, the assigned tasks will be different.

I'm not sure what to think. I wonder if an actual nurse or doctor would find this information useful, but I like the design.

Giving detailed analytics is always helpful in identifying the causes. Not very clear how threat level is being identified. Should take care that it is not being identified improperly.

Looks interesting. I think it would be better if first and second column is merged as first the admin will see which room is high risk then which person is in that room then raise a concern. But if they are merged he doesn't have to correlate the room info with doctor and can see that straight off.

Quite informative and easy to comprehend. Plus it encompasses all the information in one screen

Again this is a great app. I think it covers much more then just basic information and could greatly improve the health of the nurses. With the google trend module i think it really provides a sense of safety for the nurses.

How do you isolate trends to a specific area like a hospital or is it going to use world wide data?

I like the graphic for data visualization, which makes it more easier for people to read the data.

Someone should have proofread this copy and corrected the typo's and grammar. This is all well and good if it does not require more time to track and input all data.

good .you can accept gate paypal, pm, statics of people, scheduled

Looks like a solid display. Pretty clean and easy to read.

I believe this is more relevant, as an administrator in the building can monitor these results, and alert people as required. I am doubtful of how practical it is for employees to update info on a mobile device during work.

Looks great, but kind of cluttered. Could be streamlined a little better.

Raleigh Hospital, illness in the past months. That mostly the Hospital Administrator go for it.

Instead of making the app complex, simpler methods may be tried

It can help and save information and be used to help where to go, and what to do.

Now you are on the right track. Tracking the NURSE as she moves from room to room will be able to better detect whose practices are spreading infections.

This is the best way to deal with the patients n to find out about the patients n their health .it help nurse to take precaution n prevent themselves from the patients disease .this record will be helpful for both the patients n their family n for the stuff who is working their .if the social media like twitter n googke can also help in making people aware of the trends n information.

i am unable to blow up the pictures, but it looks like the 'red room' may have a list of reminders for that particular room. i find that quite interesting.

This sounds useful. That said a healthcare professional in the ER or nurse type places will be more valuable feedback

This also seems helpful, but I associate this with incompetent nurses. I feel like healthcare professionals should already have cataloged many common causes.

I think all are going right track. Twitter analytic module and Google trend module for the administrator to look up recent

This would be a great tool in keeping track of infections if they do occur and could slow down or stop how many infections there are.

That looks good and looks very organized. I guess this is something I can try and hopefully get used too. It has just always been pen and paper method in the hospital.

Have to take care of general bugs in the app, uyou have to check first that its monitoring right or not

Nice app this one is. Understandable and inviting one.

I think it will be great for many things and will be used a lot

Will this app be able to utilize Twitter and Google services to get the past data... I doubt..

wow I am really impressed that one of the latest technologies are used here in a very orderly and systematic manner so that every one can easily access through it saying that this health care industry provide high standard

Again, it needs to be more sophisticated in design otherwise it will become burdensome to use.

The threat section can be more informative as it gives an indicator if the patient is recovering and how much recovered and vice verse. This will help the nurse to correlate the impact of drugs induced in patients

I am actually shocked this system has been developed earlier.

The workflow of this app is really appreciateable and the features are very good

is an app always the best idea? why cant we go more basic and rely on documents

MM SEEMS LIKE FILTER METHOD IT CAN BE KEEP OURSELF,BUT INORDER TO MOVE NEXT LEVEL THIS IS NOT ENOUGH

prediction is wrong, it would lead to making wrong decisions which would have the opposite of the intended result.

This is an ongoing problem and if there is a proper prediction tool. It will help alot.

I agree. With proper and early prediction, we can actually improve the HAI-related issues and establish a better healthcare system.

I agree. I think with most diseases that prevention and prediction of who might have or get the disease is the most key function. I wish that there was some information about what HIA stands for.

Sounds like a noble cause. Anything that will get patients out of hospitals quicker is a good thing.

If it won't affect nurses or doctors' procedure to do treatment too much, I think it'll get a lot of participants.

Good, HAI is spelled out. Yes prediction would be good, I know of 2 family members who got staph infections while having surgery for something else.

I think Hai will try hard and receive medals

Seems like a fair statement. Prediction is more useful than confirmation.

Prevention seems to be definitely the way to tackle the problem, since there is little you can do once the infection spreads

Prediction HAI is important, but I feel like not confirming the existence is way worse.

I feel happy and excitement when I hear Disney land

I agree with the thought that focus should be on predicting HAI

Funding and people with experience is the key here. Ready have the motives set in place, just need to take the action to get started.

I think there need to be mandatory courses on HAI. It is surprising how many nurses don't know about general hygiene practices and thus inadvertently put patients, as well as themselves at risk.

We should take precaution before they face problem .we should take prevention from before.we should do investigation n nurses should take precaution .the higher revenue should be spend more n more investigation should be done .the patients should also take part in the collection process so that nurses faces less work load n can prevent their health from disease that are viral.

i agree with work smarter, not harder. I am an adaptable person for the most part. When I see that something isnt working, i try to find a solution to the problem that may work better. I appreciate that this study may take added pressure of of nurses.

that is potentially true. but other considerations should be thought about. such as healthcare insurance and liability.

Prevention is always the best way to keep bad things from happening. It is impossible to foresee everything with HAI, but with the information that has been collected, the attempt to properly predict HAI can continue.

Absolutely right. I focus this predicting HAI. No problems.

HAI seems like it hurts a lot of people. Whatever it takes to keep it from occurring should be done.

I like this. As a nurse I try my best to prevent infections instead of just curing it. Kind of like prevention is better than cure.

Improving HAI and increasing the results

Good progress in treatment of the patients who are suffering.

seems useful and helpful for who ever is involved

HAI is a new term. Looks like interesting. Hope i will get some details in the survey.

I support with this statement as I think like through early prevention and prediction of HAI we can regulate the cause of HAI been spreading to more people so that there will be less work pressure for the nurses

If the outcome of this data collection will be positive improvements, then why wouldn't people want to participate?

Predicting is good to start but we have to find out the actual cause of HAI and why this disease appear suddenly, who are the beneficiaries of these kind of virus/disease burst.

I believe that The structure at hand seems to work best for patients as they have patients who are always in need of something.

I am totally support the above statement, since it provides a good conclusion

Okay, but how do we predict it? am i expected to read the research?

IT MIGHT BE WORK BUT THE CONCEPT OF THE IDEA MUST BE IMPLEMENTED WITH SOME NEGOTIATION

Based on precision tracking technology, we build the "Automatic To-Do Check...

This is an appropriate use of software in real life problem solving. It eases the human life, here the nurses and reduces human errors.

It seems like a great way to keep track of tasks. But is it not easier to simply use pen and paper for doing this? It is also still reliant on the nurse to make sure the application has been updated with the tasks that have been completed in a certain room.

The workload nurse can be reduced easily. Also space for correction in case of mistakes.

Automation always results in higher productivity. But with the condition that you know very well that your automation is well checked. There is a need for multiple test cases in terms of automation.

Great idea to help nurses remember the task and keep track of what is done and what is not.

it will help in remembering and also organizing their time between different rooms

In hospital, not so many tasks are fixed. I believe there must be a lot of break outs which are hard to predict. And once the emergencies happen, the schedule must change accordingly. Therefore, it is easier said than done. You must take these factors into account.

Is the nurse responsible for checking off the task? If she is, I feel like the whole system would be faulty at predicting HAI.

This is perfect thinking. This sort of to-do list can actually help many other industries as well. This would definitely be very helpful to healthcare workers who can also be in very stressful situations.

All of this sounds promising. But I still don't understand how will physical tasks such as washing hands will be recorded in the software automatically.

Its really cool if it is detecting the room accurately and popping up the correct task list. Although, I wonder If it will work for very closely build room spaces.

Does the nurse have to manually check off these tasks as it goes or will there be a screen in each room that will display everything that needs done as it goes?

it will help the app being used tremendously since it requires less human input

There are crossover tasks depending on the situations in each room, but there are clear distinctions of what housekeeping (environmental associates) are responsible for vs nurses. An automatic to do checklist is a great idea if everyone uses it and there is not duplication.

It is good and I hope the app will come to me soon

This seems like a good idea. Is there not already a system in place for that?

Can be definitely helpful to organize the tasks. But I'm not sure how convenient it might be for an employee to track it on a mobile device during work

What happens if the tasks go over to another room. If you enter a room and get updates cant you be next to the wall of another room and get the signals from there and thereby get wrong data?

this system is had a great workflow that the health administrator can easily truck the patient's room.

Good idea can successfully implemented for better service for the patients

Gives them more organized planning and keeps the place efficient.

Very good - reminders for hygiene and DO NOT DO lists would also be effective. Reminding the nurse to wash hands, reminding them that it is necessary to do some tasks over if they are done improperly despite the time it takes, etc

This app will be very helpful for the nurse to keep a record of their patients

As in a spacial pop up. would there be a way to determine that she/he has walked into the patients room? would the app know that the task had been cared for without the nurse documenting?

I like it. That said a healthcare professional in the ER or nurse type places will be more valuable feedback

This is useful. I hear about my mother in laws stories in the nursing home she works at. She always complains that the other nurses fail to take care of certain things, and never communicate that they need her help. Perhaps, with that human element removed, the human conflict will also be.

Nice. a big reason why mistakes still happen regardless of formal trainings

This sounds like a really good idea. That way a nurse would not forget something that they have to do if they get interrupted.

This would be great but It should be available from the nurses stations too as I don't think would want to come and go to the patients room just to do check what stuff i need to do

Yes but in emergency how the app will know that that particular task is completed

Automatic TO-Do check list feature must be improvised still more. It is very much helpful for active nurses who are very very busy in their activity and in hospitals.

it will make things easier to keep track off at all times

Will the nurses be able to concentrate on app notifications.?

I really think that its really gonna work pretty well so that the nurses work burden will be reduced

The to do check list feature is a very good idea because it will keep people up to date on what needs to be done.

Yes that is good idea, but there should be a place where the other nurse can see what all task the assigned nurse performed before taking the handover.

I think that documenting the task without being able to remove it is a great tool to help all health care providers keep accurate data on each patient that way it's not possible for anyone to "forget" and have a medical malpractice.

Wow. amazing. it will be very helpful and tension free app. all nurses will try this

Automatic is good, people like automatic things for sure

ITS AN IMPORTANT THING TO EVERY HOSPITAL SINCE WE ARE IN A WORLD OF ADVANCED SO THESE APP CAN HELP US TO PROVIDE A GOOD SERVICE EVERYWHERE

SCENARIO: A nurse enters room 101. He walks toward the patient's bed. Th...

The WhiteWolf Mobile app reduces the dependency on human memory to a great extent hence eliminating errors encountered in the day to day life.

This is an interesting feature. I would be curious to know how this feature works. But it solves something that's potentially quite dangerous so there's a solid point in the app's favor.

This is very helpful in terms of safety. Useful implementation can really help.

Excellent idea. I believe it is great if this functionalities are really placed into real scenarios of healthcare. If tested and worked well it is a great idea.

it will help in remembering and also organizing their time between different rooms

That is a very sensitive sensor! How is it tracking his movement? Also the beep sounds like it would go off all the time and eventually no one would react to it.

This feature itself would probably prevent most infections.

What is the guarantee that the nurse will wash hands? The atmosphere in hospital is generally of being in hurry. What if the nurse tries to skip that task.

Question: So what would happen when it beeps and nurse sees the task, washes his hands, performs next 3 tasks and then those tasks are removed from the list.. Then he goes out just for a minute, and comes back again, will the task list start from the first task?

How would it be that granular with the location. How would he prove that he did in fact wash his hands?

I won't use the beep sound, but with the phone buzzing instead since it's in a hospital and quiet would be most beneficial

Great reminder as you would be surprised how many doctors and nurses do not wash their hands enough.

Yeah, the app is very helpful but we need images to do that

Sounds like a good idea. Might be hard to implement.

Yes, it is a good idea to prevent accidental HAI, and to make sure the health protocols are followed by employees

That's a good idea, since HAI can come from not washing hands.

It's really good that detect that the nurse not washing his/her hands. Great hygiene

Do not make the Nurses over dependent on the mobile app

She might be learning how the system is working. Learning process.

EXCELLENT! Love this! This is exactly what I am talking about, this could really help!

This will alert the nurses to take precaution n prevent themselves from the disease .this app will be very helpful for both the patients n nurse .it warns the nurse to take precaution

I see now. i guess you answered my questions above. i like the concept. whats the rate on human erroer at this point?

This sounds quite silly. that he has to check an app to wash his hands

I can imagine this being somewhat problematic. Most healthcare facilities I have visited have had relatively small rooms. So, I can see the beeping becoming annoying especially if the sink is very close to the bed. Perhaps if the distance could be adjusted.

The nurse checks the app and realizes that he was supposed to wash hands first.

That is a good way to keep him from making the chance of an infection in the patient greater.

I think this is unnecessary. Also having a phone around me and bringing it everywhere can just cause more hospital infection to be spread from one patient to another.

Its good but time taking too, For at time of emergency there are so many things to do

Really superb app this one is. It is also useful for those who are visitors. Also it gives message to nurses.

I don't think it is very useful at all..just a waste of time

Is that possible in reality that software will be able to find even a 1 feet away from patient distance correctly?.. confused

so eager and waiting for what really gonna happen in this situation ,its really great deal done by the app, I can clearly say that this app is of a high standard and its helps prevent nurses from committing a mistake

This is good because it reminds workers of what to do, but it might unsettle a patient if it does off that closely to them.

Yes it is great idea if the alert is proactively coming, but check if the alert are always coming on time.

I am unsure of the progression on the patient's behavior tracking system with the limited information on that section.

Nice feature, seems very helpful for all nurses. These kind of features will be very appreciable

This should be standard practice and why did an app need to be used

GOOD IDEA THAT ENSURES THE SAFETY OF PATIENT AND ALSO STAY AWAY NURSE FROM THE INFECTION

[illegible]

The nurse proceeds to the hand washing station. The precision tracking syst...

Using the app, dependency on human memory and wastage of time in communicating and understanding the communication is greatly eliminated.

Keeping track of every task the nurse completes seems like the most challenging part of this. If that can be done and automated, it would signify a great leap in the use of technology. However, now that the handwashing task has been checked off, and the nurse would probably have to wash their hands again when they go back to their original room, would this task come back ?

Saves a lot of time. Task list can also be motivating to nurse.

Well these are minute details and I DONT think that health care professional will go through such details.

this seems very helpful and makes sure the necessary procedure is carried out by every nurse.

it will help in remembering and also organizing their time between different rooms

Same as above. It may bring to much confusions to the hospital. Like the air traffic control. Even nowadays it must be handled by people, not computer. I would like to say this is a good idea but it may be hard to implement immediately. The most difficult part is not designing the app, it is, how to design the algos.

This tracking system sounds unrealistic, but if this could be implemented, it would be very useful.

Smart thinking on helping with removing communication overheads (I didn't even consider that). New healthcare workers could be more assured about their job if they had a checklist to guide them. Would reduce probability of nurses making potential trivial mistakes.

I would love to see this in action. But this looks really complicated and I am not sure if health institutions are going to adopt it.

Same concern as above.. Will it automatically be able to detect the exact movement of hands and check off the tasks ?

What if he needs to wash his hands again after washing them the first time and going to the other room?

Yes that's a very good procedure.....

Great idea as long as there is no duplication. What happens if the nurse does not fulfill the task or only does it half-way? How does the app know?

Yes It is good , the apps will help nurse very much and save money

How would the phone track hand movement? Otherwise, sounds good.

Yes, it can help organize the tasks, and make sure the nurses don't miss out any tasks. Another question is how accurately you could spot the location of a nurse within a building. Would you be able to use GPS to check for rooms at different floors?

Efficiency is great, and can help the patient, but too much reliance on the app may cause more problems.

As health administrator, you need to have proper hygiene and cleanliness. When your going to enter room of your patient's all the time.

Internet of things is good but it should not control humans

He knows how it works and quickly takes charge of of the situation.

Love it! The tracking of the nurse throughout the hospital and making room for unexpected actions is fantastic.

This app will inform nurses n staff to do work n this is very helpful when there is emergency n the oatients need more care .the nurses can be informed about their work through this machine .

the first task that he should complete is washing his hands again. i like the idea of this app, im just hoping that it doesnt make care robotic. I think communication is very important between nurses.

Too much of an aid may impede the ability of the human mind.

I think of how useful this can be for efficiency. There's a lot of staff in a hospital, and it is unrealistic to think that everyone communicates with one another.

Good think. He quickly gets to the room and sees there are many other nurses there. Still new to the hospital

That would be good with keeping the nurse on task without interrupting the others' work.

I mean..... i just think its very unnecessary. If i dont know which proper steps to do then I should not be in the hospital working in the first place.

Perfect that resolved my previous query of this app

REally superb app htis one is. It reduces our work and reminds us to do the To-Do list.

it will be useful in many different situations for cleaning purposes

Still my mind is confused whether the app will perform with that much accuracy..

the app is really helpful to him. the app reminds him of the task he really forgotten and that too in appropriate order. this situation the app really works as a reminder.

There should be communication, and the app could be relied on too much for remembering things that a worker should know already.

This will definitely saves a lot of time and unwanted confusions.

This process seems quick and effective. I personally think that things would run much faster with this program.

This feature will help the nurse to execute his task without having communication with others

I guess this is ok, I dont really know what to say here

IT WILL IMPACT THE EMERGENCY NEEDS,THAT SHOULD BE APPRECIATE ONE,SO IT CAN BE IMPLEMENT IN OUR APP

A word cloud visualization of survey responses regarding the use of mobile devices in nursing. The words are arranged in a circular pattern, with the most frequent words being 'tasks', 'nurses', 'can', 'app', 'like', 'time', 'great', 'good', 'seems', 'really', 'employees', 'makes', 'already', 'many', 'useful', 'correct', 'application', 'patients', 'thoughts', 'break', 'need', 'people', 'idea', 'track', 'small', 'care', 'nurses', 'also', 'done', 'make', 'staff', 'everything', 'will', 'suppose', 'great', 'taken', 'sounds', 'remove', 'useful', 'many', 'app', 'person', 'correct', 'application'.

That was exhausting and the nurse decides to take a break after the emergen...
Nurse must use cell phone. Nurse must use cell phone. Nurse must use cell phone. Nurse must use cell phone. Nurse must use cell phone. Nurse must use cell phone. Nurse must use cell phone. Nurse must use cell phone. Nurse must use cell phone.
The mobile application is an easy way to remind people about the tasks and since it is a mobile, its easy to carry it around.
I really don't think that you get a correct sense of user evaluation! Let me tell you, user evaluation is just the presentation of your product and asking about how satisfied the user is and how easy and accurate the product can be used by a user! I am not here to constantly tell you my opinion about each single step of your project!
Since the scenario pretty much takes care of everything that needs to be taken care of, it seems like everything is running smoothly and the nurse can proceed with their day.
That is cool! The nurse can know that what he does not need to do and he can go to take a break immediately. This is very convenient for nurses. Nurses need to work a lot, so your application can help nurses take a break, which are very good for nurses.
Everyone gets updated about the happenings of nearby.
Did the other nurse remove the task from the app or the app has some functionalities to automatically decide if the task has been done or not?
well it is okay, but there are many minute details which are time consuming. Have you thought of complexity of such functions or are there any apps already exists?
his seems very helpful and makes sure the nurses do all the required work at correct time.
it will help in remembering nd also organizing their time between different rooms
Same as above. It may bring to much confusions to the hospital. Like the air traffic control. Even nowadays it must be handled by people, not computer. I would like to say this is a good idea but it may be hard to implement immediately. The most difficult part is not designing the app, it is, how to design the algos.

Sounds like a great time saver. I just hope the system doesn't track that he is taking a small break too.

This is very well thought out. I am convinced that this would be very helpful to health care workers. I could also see this being adopted into other industries as well.

I feel that checking for tasks on the application will be an added overhead. Moreover the nurse is constantly touching the phone to check the status of tasks and germs could be transferred on the device as well. So if the nurse has just washed his hands and goes on to touch the device, I feel that the germs could be transmitted.

Sounds good. Clear task tracking is the best feature. I am just a bit sceptical about the automation part

Seems like a good situation with each room monitoring itself this seems like it would make the work much more quick and efficient.

It keeps track of what needs to be done and what has been done. I think it has all the functions it needed

Great if it really keeps track of all tasks needed based on the room vs the person.

Some example we need many images than information

Also good. App allows nurse to not waste time doing tasks that have already been completed.

Sounds good. He does not need to redo the stuff that has been taken care of by someone else. It is a good way to organize tasks within a group of employees

The app seems to be doing what its intended for, but nurses should know who did it too so they can thank them.

It's great the App already know that other health administrator. Attend or take good care to the patient's.

Acts as a good remainder for the nurse as his position is monitored.

That the app has help the nurses and the patients. It a well made app.

This would be great as long as the person who performs his tasks is also using the app and reminded of hygienic practices, otherwise there is still a risk and the nurse who was supposed to perform the tasks could possibly take the fall.

This is very good for both the nurses n the patient .it inform nurses what action should be taken n where they ate needed more. This keep a record if patients health n update the record of the patients .it inform nurse what precaution should be taken .

ive enjoied this thought provoking app, I do think that this could be implemented in many areas, however, I still worry that human error is still a possibility.

THis is useful. location sensor in a small space seems hard to implement though.

I think this may also increase productivity. Communication is difficult with many employees, and it would be efficient to remove the announcing of change of duties.

I like it. he notices that someone has helped him with some basic tasks while he was working on the emergency cases

I'm not sure if the app knew that someone else had done some tasks already. If not that could be a problem.

Its okay. Still think its unnecessary. going to waste minutes at work just looking at these stuff. This are just things that we can do without the help of technology

yes its good and workable too in hospitals and other place too it can work

Reallly useful for who are working nurses. Won't you go and appreciate ah.

prefect for keeping track of things that happen all day

If everything goes fine in the software, its goings to be great...

wow! this app is really powerful.actually, the nurse is known to his duties because of this app. this app makes him to work in a systematic order also it is very great that the app can sense his position which makes task easier.

It is very complicated and can become very messy if people are completing each others tasks. There is also potential for an app to make a mistake, which might have very dangerous medical consequences.

This is perfect use case scenario and very useful if someone already perform the job and she gets intimated.

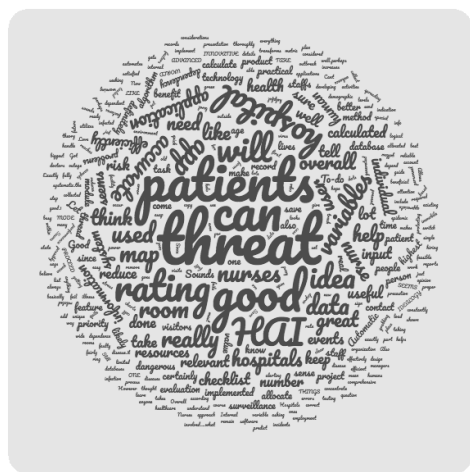
The idea that several tasks can be opened seems like a wonderful idea and more productive moreover.

another good feature which will help nurse to get know about his pending tasks

Seems like it turns people into robots, running on automatic

WOW AMAZING FACT THAT I HAVE NEVER EXPECTED IT WAS APPROACHABLE ONE TO HANDLE

The threat map application utilizes data as a surveillance method to reduce HAI events. The threat map takes input as variables from internal databases (such as the task database from the "Automatic To-do checklist" module) and transforms these variables into a threat rating which is then used to calculate an overall HAI risk rating for each room. Example variables include the patients illness, age and other demographic information as well as the number of nurse visits, number of outside visitors, the last time the patients room was cleaned, patients length of stay, and others. An overall threat rating for each patient will give hospital staff the information needed to efficiently allocate resources to the highest priority. Your thoughts



Target	Type	Sentiment
threat rating	negative	-0.267037
threat map	negative	-0.344864
threat map application	negative	-0.312994
overall HAI risk	negative	-0.449061
Automatic To-do checklist	neutral	
individual threat rating	negative	-0.352918
overall threat rating	positive	0.811895
HAI events	neutral	

The threat map application utilizes data as a surveillance method to reduce...

This automates the hospital process. It reduces human dependency. Also as it increases the software dependency and it is related to healthcare, it should be thoroughly tested.

I really don't think that you get a correct sense of user evaluation! Let me tell you, user evaluation is just the presentation of your product and asking about how satisfied the user is and how easy and accurate the product can be used by a user! I am not here to constantly tell you my opinion about each single step of your project!

This seems like a fairly comprehensive list of factors that should be considered. I'm sure the metric can be calculated better after some testing.

This is cool! It is quite useful for hospitals to have an application which can help them efficiently allocate resources to the highest priority. And since you use data as a surveillance method to reduce HAI events, I think you design for this part is good.1

The approach to calculate overall HAI risk seems very reliable.

How was the threat rating calculated by the system? Is there a special algorithm for that feature? If so, how can you tell that your algorithm is accurate?

The threat system is a unique idea and it will further enhance the well being of patients.

good job to send overall threat rating for each patient to efficiently allocate resources to the highest priority.

It will certainly help them in protecting themselves

The threat map application utilizes data as a surveillance method to reduce HAI events. The threat map takes input as variables from internal databases (such as the task database from the "Automatic To-do checklist"

module) and transforms these variables into a threat rating which is then used to calculate an overall HAI risk rating for each room.

Sounds like a great idea, could really help a lot of people and possibly save lots of lives.

Still not clear on how the threat rating is calculated and how accurate it is. It is definitely a good sign that you are taking a lot of relevant variables into account.

To implement this a lot of personnel is required and I am not sure if hospitals will be ready to do it.

Good application. Very feasible and practical. I am not sure how age is relevant to HAI threat map? Does it mean is the person is old, the room is more likely to have HAI threat value ?

Seems logical. A quick indication of that state of each room seems like a great way to go for busy staff.

Exactly.....

Ok, all sounds good in theory if humans do not have to input it. As there is always human error involved....what if a person says the task is done on the app, but it is really not? How would anyone know?

It is good but you should add ring and dangerous -warning

Sounds good. Allows hospital to better plan for events.

I believe this is the best feature in the app. With proper records of what was done (and not done) in a room, you could collect relevant data which would help predict HAI more efficiently in the future

The biggest question is what value each variable gets since some will be more dangerous than other variables

The threat map application, good to do checklist and accurate. Save time and save more lives.

Good idea and can be implemented at the practical level

It helps them learn what they need to know about everything.

I think this is a great idea. However once again, the threat of an infection spreading is more likely to come from the nurses who are in contact with a patient. After all most patients are basically immobile or remain in their rooms most of the time. They are not the ones who come into contact with other patients and handle other patients. Nurses and perhaps even doctors need an individual threat rating as well. perhaps this info can be input for individual hospitals by the nurse managers based on reports and incidents from existing nurses. ie: each nurse can have their own individual threat rating within the app, which is shown hospital wide. This rating can also be used when the nurse is seeking to switch employment to a new hospital (used for hiring considerations).

This keep a record of patients n their health .it keep record of the visitors n the risk of getting infected by the patients. It give full information to the nurses about the patients n their health disease .with the helo of this information the nurses can take precaution n prevent themselves from the disease.it rate the patients according to their health n diseases.

i appreciate the green , yellow and red dots on the app it is attention grabbing and makes sense,

This is good. there are useful features and this is certainly one of them.

This would effectively remove any hard copy charts used. That would definitely benefit the environment a well as the overall organization of the facility.

xample variables include the patients illness, age and other demographic information as well as the number of nurse visits, number of outside visitors

This looks very helpful and would be good for alerting people to developing problems.

This one is a good idea. I like the idea that you can set threat levels for each room

Cant say anything about it need more details and understand first

Overall good thought about this project.

useful to keep track of what goes on and the activities that take place

Got a call from my Love. Now over. Let me concentrate here. Internal database should be fully up to date. If not many errors and problems gonna occur.!!!!!!

this is really great as this app can work as a real guide. this of course reduce the hospital staffs stress and make the hospital very systematic.the benefit of the app reaches to the patients also as they will be allocated with the efficient resources from the hospital staffs.

This will make hospitals too dependent on technology that could be faulty or fail in a power outage. Hospitals need some degree of human dependence in case technology fails.

But does it able to cope up with the load with limited number of staff as the virus outbreak is epidemic.

I really think that the Automatic To-do checklist" module would be beneficial to both the nurses and patients. I hope to see this system implemented asap.

Since the applications performance will depend upon the data collected, those data must be accurate and real

How exactly is the threat map generated, and what form does it take?

ADVANCED MODE OF IDEALOGY THAT SEEMS LIKE A INNOVATIVE ONE TO TAKE PROCEED WITH THE WORLD AND THE OTHER THINGS

[illegible]

SCENARIO : There are two empty rooms (labeled 1 and 2). They both initi...

I really don't think that you get a correct sense of user evaluation! Let me tell you, user evaluation is just the presentation of your product and asking about how satisfied the user is and how easy and accurate the product can be used by a user! I am not here to constantly tell you my opinion about each single step of your project!

This is quite good. The empty room is given to people who has an emergency situation. This is quite important for some patients who has serious illness.

I don't really think the possibilities of HAI and patient age are related.

good job on changing the indicator to suggest what steps are needed to be taken

A 30 year old male was admitted to the hospital with a laceration to his finger that will require multiple stitches. The patient is placed in Room number 1. In room 2, there is an 80 year old man has a recent heart surgery done. Because of the change, the HAI indicator for room 2 turns yellow. Healthcare administrator noticed it so she checks room 2 statistics and get a mental note about the patient.

What is the nurse hoping to change with this information?

Healthcare administrator have a good way of identifying which case is more serious and getting all the relevant information.

This sounds more useful than the tasks thing and feels practical too.

I still can't wrap my head around the idea of age and HAI. But yes, application wise, it's perfect scenario to gauge the situation

I'm not sure how these two incidents have anything to do with each other. Is it because a new patient entered room one with a blood issue that caused the room two patient to turn yellow?

Exactly.....

Room 2 is higher risk due to the age of the patient and the surgery so it makes sense that a mental note would be made about the patient.

Need to security because I think Hai is very dangerous

Sounds good. The more invasive the procedure, the larger the risk of infection, I guess.

It would be good for the administrator to get an overall picture of what's happening in each room, and assess the risk of HAI in each. With multiple rooms (or increase in rooms), I'm not sure how efficient the monitoring system would be. Is there a need for alert just because a patient was checked in? Shouldn't the app monitor data over some time before creating alerts?

Maybe there should be the age of the patient within the color block, since that will affect the perception of how much attention to give.

The patient's on room 2 had medium risks. And had a heart complication recently done.

The HAI risk rating will help the nurses understand the room status

Helps know who is who and keeps us informed. And the app is always right.

Yes I think this is a good idea, because the older man is at more risk of serious complications from infection.

The color bar help the staff to treat the patients who need more help n is more in risk .it help the staff to get more information about the patients health.the nurses can come to know with the color bar how risky the patients is n what precaution should be taken .

the 80 year old with a recent surgery is more at risk for infection than the 30 year old with the laceration.

This is good. That said a healthcare professional in the ER or nurse type places will be more valuable feedback

This would be better than having to wait for word of mouth warning. It is immediate which is called for in a situation like this.

A 30 year old male was admitted to the hospital with a laceration to his finger that will require multiple stitches. The patient is placed in Room number 1. In room 2, there is an 80 year old man has a recent heart surgery done.

It's good to be alerted to a patient that would be a higher risk of infection.

I like this idea. The whole room threat level concept

Yes okay but didn't actually understand what is the question

Thought and realisation should be very effective and modernised and cultural.

useful to keep track of what goes on and the activities that take place

Ok. what's next? let me read the next para. Hope it will give me more details.

this could help the healthcare administrator to know the patients details and help them with all the facilities there.

This could be useful because it identified a threat that the nurses couldn't.

the same mental note will be send to the Nurse assigned to that room.

Because room 2 seems to look at the priority list, I think its great that both the technology as well as nurses can work together to make the patient happy and do their job quicker.

Good feature, but app must ensure that within a time someone has visited

I have no thoughts about this at all. None, really, its just a scenario.

IT IS NOT TOO ATTRACTIVE IT CAN BE EITHER ONE IDEA OR BEFORE SCENARIOS REFLECTION,IT MIGHT BE NEGLAT TO IMPROVE THE QUALITY OF THE SOFTWARE

[illegible]

3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare...

I really don't think that you get a correct sense of user evaluation! Let me tell you, user evaluation is just the presentation of your product and asking about how satisfied the user is and how easy and accurate the product can be used by a user! I am not here to constantly tell you my opinion about each single step of your project!

That is also very important. Sometimes nurses or doctors may make mistakes by accident but it is very hard for administrator to detect this immediately. Your application can help administrator do this so it is very good.

OK, this one certainly has some impact to the HAI rate.

good job on changing the indicator to suggest what steps are needed to be taken

3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare administrator saw the change, did an inspection, and realized that the waste disposal was not collected per schedule. The administrator then initiates a notification to whoever in charge of that task.

perfectly reasonable. maybe you could also look into directly sending notification to health care worker responsible for the increase in threat level i.e those who have missed their scheduled tasks.

This seems as an anomaly to me as the waste disposal was supposed to be changed by someone before that and since that has not happened the health administrator would have been alerted earlier only as the required task was not performed.

Perfect end. However, what will trigger the value change to yellow in the application?

Couldn't the notifications be done automatically when a sensor like that goes off. Does an admin need to manually do that?

Exactly.....

It's a good idea to let them know the waste disposal was not collected. Maybe it was not full, what happens if it is full before the next scheduled time?

It is very important you need many securities I hope you can do it

Do you normally spend 3 hours in a hospital just to get your finger stitched up? May need more indicators than green yellow red. I dk if status should get elevated for something that seems relatively minor.

If the task allocation can also be done within the app, it should solve the problem altogether. If the employees can complete the task, and the indicator goes back to green. it would be an efficient way to predict and prevent the spread of HAI.

The app is doing what its intended for, but shouldn't the other person have gotten a notification?

The indicator change to yellow, when there is something wrong to the patient's or having problem in schedule of task to do.

The requests of the patients can be taken care of in novel way.

Does give it's indicator but the staff will ignore it in the future.

I like this a lot. But I think the healthcare administrator would need to take the app seriously and constant monitor it. This may not happen.

This app help the nurse to take action n go to the room who need more help .the color bar tell the stuff about the patients emergency n their health improvement or risk .they informed the staff to be in duty where it is needed . it be a shame that bed 1 ended up with infection due to human error. the nurse who was responsible for the garbage in room 1 may have still been with another patient and unable to get to the task

Interesting use of the threat indicator. A warning system is useful here.

Perhaps more nurses might take on more work simply because of their work ethic. Some might ignore simpler tasks.

did an inspection, and realized that the waste disposal was not collected per schedule.

The indicator would be helpful with heading off any problems in this scenario.

I dont think the waste disposal is going to be forgotten. =) everyone knows their job already and its almost like a routine so nobody forgets anything

Okay yes so the waste disposal will be changed on time

Thoughts and responsibilities are very sensitive and should not

useful to keep track of what goes on and the activities that take place

Administration coming into play directly. Good move.

this is a remarkable aspect of the app. the makes thing go easy.

This is useful because it keeps track of the simple things in a hospital that could become considerable health threats.

It should work exactly in the same way and should indicated the assigned nurse.

The color indicator seems to be a great asset to the workforce as it provides certain notifications to the nurses.

based on what information these kinds of features will be available

Man, it must be hard working in a hospital. All this this people work.

IT WAS ACCEPTABLE ONE,I FELT WOOWW IN THAT CASE IF IAM ONE OF THE PART IN IT

Please provide reasoning for how you decided on the ordering of the HAI contributed factor list (in the above question)

Please provide reasoning for how you decided on the ordering of the HAI con...

Well, the patients illness is the main factor. Apart from.that the age as well matters on the possibility of catching an infection. The hospital visitors carry germs from.the outside world and hence contribute to.the HAI.

Come on! Are you kidding me?! Am I taking a school test or I am doing a user evaluation?! To be honest, I really didn't expect your team to have such a user evaluation!

Current illness seems like the most intuitive to rank first. The remaining are just my estimations on how they should be ranked. I have no medical knowledge so this is simply a calculated guess.

First I think, patient's illness type is the most important because some type of illness may be really serious and Second, I think patient's medical history is also very important. And the other factors I think they are of roughly same rank.

The color scheme helps a lot. Age group is the factor I considered.

The HAI is a type of infection due to mis-performed of the medical procedures. Based of that, I think the patient illness and the type of procedures performed are the top two factors on the list. Following by some common factors, and I think the patient age is the least possible factor that can contribute to the HAI infection.

These are common ways as per my understanding.

i decided the order based on my past experience and common knowledge

3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare administrator saw the change, did an inspection, and realized that the waste disposal was not collected per schedule. The administrator then initiates a notification to whoever in charge of that task.

I though illness would be the biggest factor because it makes patients more likely to become ill, length of stay at hospital would also be a very big factor. A nurse visiting a patient would probably decrease the chances of getting an HAI if anything.

patient illness and types of procedures performed seemed like it would have more effect on the current situation. then other people visiting the room. firstly nurses. if nurses come in more the they will eliminate all the potential causes of HAI. other visitors coming can also have affect threat level. not really sure how medical history, age or length of stay would directly contribute. I understand abstractly that they will have an effect but probably less so.

Based on the practicality of the situation and how useful will HAI be in the actual scenario.

I believe that the illness and length of stay affect the most. Nurses generally are more hygiene conscious than the visitors. and age I feel has the least impact

Things like illness and external visitors seem like the most likely ways to bring in new diseases and threats.

Exactly.....

The more procedures done on a patient, the increase risk of infection happening. Anything with bodily fluids increases the risk. The amount of contact a nurse has with a patient can increase the risk if there are multiple nurses; inaccuracy in reading charts, cleanliness...the type of illness has a risk factor depending on what it is. Some patients have autoimmune problems and are at risk every time they visit a hospital in general. The longer the hospital stay the more contact with germs is possible.

I think the reason is not important because you need to improve your system

Illness has the most to do will how transmissible a disease is. For example if a patient comes in with the flu, that is pretty contagious. If a patient comes in with an allergic reaction to something, then there is no real harm in transmitting whatever illness they have to someone else. Sharing equipment is also a big risk factor from what I hear.

1. The most important factor is the type of illness. This determines whether the patient should be in isolation (or quarantine), or the level of precaution employees should take while entering the room. For ex : Wear gas masks in case of ebola virus 2. Type of procedures - If the patient had a surgery or sorts, he would be more vulnerable to infections and sorts. I think it is the second most relevant 3. Patient medical history - We need to know if the patient has a history of illness, or if he has a weak immune system or sorts 4. The rest of the factors seem less relevant, and I do not have a specific ordering for them.

I believe type of operation will also decide the likeliness of infection. The rest is based on general guesses.

When the task to do is not completed the indicator change to how the risk is severe.

The ordering was done on the basis of critical details first basis

It's an app, and seems to be positive and negatives, some run for it, others forget about it.

In my experience, the longer a patient stays in the hospital, the more their risk of infection.. however the practices of the nurse in contact with him/her is the main risk of the infection in the first place.

Its more helpful n informative .

im sorry i dont understand. i as an administrator would attempt to help with the task rather than re send the notification

An overall threat rating for each patient will give hospital staff the information needed to efficiently allocate resources to the highest priority.

I decided on things that make any illness worse. The initial illness is caused by the hospital itself, so going down the rest of the list would be easy to do.

Because I know it.

Older people would be more susceptible to infection. And the longer you're in the hospital also seems to be a factor. Whatever procedures you have would probably have an impact on the infection rate. More people coming into the room seems to raise the infection chance.

I decided on the ordering based on what brings HAI causes into the hospital and the patient.

Yes i dont know actually

Contribution to the people will defensibly . It should be appreciated.

useful to keep track of what goes on and the activities that take place

Gave primay importance to patient and based on that i have ordered

the main thing which attracted me is its alerting aspect and things to go systematic

I figure that illness can contribute to the contamination of a room, as well as the germs that visitors bring. The length of stay also means that the room is more likely to gain germs.

Because the first entry point is that patient is ill and thats why come to hospital, patient age then play important role as kids and older people most adversely impacted. Then if there are certain procedure had done in past, it makes doctor to take extra precaution. Then if patient stays longer in hospital then he is much open to other disease as the number of relative visits increase and any one of them may carry another disease. Nurse visit is last because she will be the most aware about hygiene.

I prioritized them in order of medical importance and personal information about the patient that would make sense to better care for their needs as a first come first serve basis.

Being a software engineer I was thinking about the development procedure of the app while reading the scenario

It would seem logical that staying in a hospital for longer would increase your risk for getting something

BECAUSE IT SEEMS LIKE A GOOD IDEA TO PROCEED SO I FELT TO DO

Is there any other factors contributed to H.A.I that you may know of ?

Is there any other factors contributed to H.A.I that you may know of ?

NA

NOT AT ALL!

Nope. Can't think of anything off the top of my head.

I think the 7 factors you provided is quite enough, these 4 factors considered illnesses themselves and they also include some information of the patient, so I think they are enough.

I think most of the factors are covered.

The level of training the nurse received before he/she is officially assigned to a hospital.

Background and history and as far i have observed how they work.

No. Not as of now.

3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare administrator saw the change, did an inspection, and realized that the waste disposal was not collected per schedule. The administrator then initiates a notification to whoever in charge of that task.

I can't think of anything

No. This is actually the first time I am hearing about HAIs. Didn't know of their existence or any studies done on them. But you guys seem to have considered all the relevant factors.

I can't think of anything else.

I think you covered all the factors I can think of

Not really. I don't know much about this field.

No idea.....

Autoimmune disorders in patients might be beneficial to treat them differently, less contact, increased or alertness to the issue by all who come in contact with those patients.

No, because the information can't not find and I do'nt know

Not really. Nurses must take the proper precautions and wash their hands correctly as well as follow the proper procedures.

Can't think of any.

Cleanliness of equipment

Need tp precise, correct and attentive as Health administrator. Because your going to save lives.

No

First time i heard of it.

No I think you have got it all, I hope this app becomes a reality

Health recovery in percentage

im assuming that it has somthing to do with the stitches and maybe the trash, and the hosptial staff assigned to the room

no

No

No

How clean the room and linens would also effect the H.A.I.

if precautions were not taken seriously

Not exactly

no

I don't know

this app perfectly reminds of the task and do it in appropriate manner

No

No

The idea is beyond brilliant and the system seems to be on point from what I can see from the research at hand.

The app should verify all data it receives since all the features are depend upon the data receives

not that I am aware of

NOTHING LIKE THAT IT MIGHT BE ENOUGH TO EVERYONE THOUGHTS,VERY NICE

Briefly explain what you think has happened when a patients room icon has changed from YELLOW to RED and what actions you would take in that case ?

Briefly explain what you think has happened when a patients room icon has c...

Its a critical scenario. High risk of an HAI. Always needs to be avoided. Utmost care should be taken in that room. All precautionary measures need to be followed.

OMG! You even will not let me go without skipping a field?!

I would imagine some critical procedure hasn't been performed or has been performed incorrectly or a nurse has forgotten to do something.

Since red is more like an "alert" color then yellow, so I think this means the patient in this room may need immediate care, so I would tell the nurses and doctors come immediately to this room.

The red can be considered as an alert. I can recheck the tasks assigned to me.

The room or a specific patient needs an immediate attention. The nurse must go to the room immediately and finish the tasks that need to be done.

Yellow to RED means nurse will be informed means emergency.

I do not know that, for that I will have to go to details.

I would make it a priority and will go first in that room. like interrupt

3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare administrator saw the change, did an inspection, and realized that the waste disposal was not collected per schedule. The administrator then initiates a notification to whoever in charge of that task.

I would think that was an emergency that needed to be tended to right away by all staff.

if icon has gone from yellow to red then it means that no one did the required tasks even when they saw its status as moderate. that is a cause of concern. we should be focused on eliminating threats as quickly as we can identify them. red icons would obviously give the room a higher priority for healthcare workers to complete necessary tasks.

Risk in the patient's room has increased for an infection --> I would alert the person who can take care of it.

HAI threat value is increased, may be due to high-risk patient and so I would give proper attention to that

Enough tasks have built up to cause a major threat or a patient has actually contracted a contagious disease. Would need to lock down that room in order to isolate the problem.

Exactly.....

It would seem that RED would mean there is an emergency that needs to be addressed immediately to either stop the risk or minimize it.

Call securities and call someone to help because it is very dangerous

Something has been ignored for far too long. Like not changing sheets for days, or the patient just has a particularly contagious disease.

It means you've missed some important tasks on the list of tasks, and that the room could be potentially harmful. The first thing is to alert people from going into the room. Second would be to check the app, and figure out what was done wrong. Take preventive measures, so that the employees going into rectify the mistake does not catch any infections. One done, the room status would be reset to YELLOW/GREEN

Probably close to dying and a lot of nurses should respond.

The indicator yellow change to red, when add more risk to the patient, indicates that need more attention on that patient.

There is an emergency in the room. I would streamline the services to the concerned room.

Seal the door, and clean everything and disinfect everything.

I think a full inspection of the room should take place, and the nurse attending the patient should be made to change their clothes and even their shoes, wash their hands, thoroughly disinfect themselves. The patient may have to be quarantined with a dedicated nurse to handle this patient and no others until the threat is contained.

If the icon change from yellow to red that means the patient is in emergency need a nurse or staff. The red icon inform the nurse about the patient health risk so they can take precaution. The red means danger so they need nurse and emergency services. I would treat the patient and will take prevention of my health.

Yellow is still using caution, red is using extreme caution, perhaps wearing personal protection suits

Higher threat rating deserves higher attention. More resources will be channelled to the red room

When it goes from yellow to red, it means that the situation is critical. The first action I would take would be to check the app for further action needed.

RED and realized that the waste disposal was not collected per schedule.

There might have been a lot of people in the room or the room might not have been cleaned recently. I would send someone in to clean the room.

If that happens it could be that it's very dangerous and high probability of getting HAI and would do a check in the room if what is needed to do

Emergency and need to be taken care soon as possible

Really good and practical change. So this app should be encouraged and must be in market at the peak level

I would check the system to help me with the problem that I face

Needs some immediate attention. Check what happened and if necessary notify Nurse or particular team nearby to speed up to that room

If it changes to red the health care administrator could immediately be aware of the patient's condition

I would assume it means there are enough things going on in the room that the room should be cleaned, and I would check the app to see what it thinks is making the alert red.

It means that patient situation is very critical and he needs more attention, the admin should take all the medical notes of the patients and act accordingly

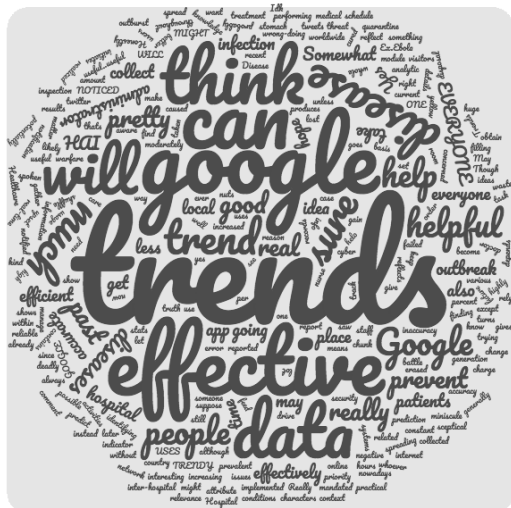
Yellow to red would indicate high alert moreover.

RED indicates there is some critical situation in that room, so someone should be there in no time

They have done something terribly wrong and it must be addressed

IT SHOULD BE NOTICED BY THE NURSE AND TO INFORM HER TO TAKE CARE OF THE PATIENT

How effective you think the google trends could reflect on disease trends?



Target	Type	Sentiment
google trends	positive	0.0690005
disease trends	positive	0.735707
accurate google trends	neutral	
local disease trends	neutral	
data	positive	0.245423
HAI threat indicator	negative	-0.22452
high priority matter	positive	0.827806
real time	positive	0.515185

How effective you think the google trends could reflect on disease trends?

Google trends only shows the diseases which are highly spoken about. Ex.Ebola. Though there can be much deadly diseases, Google trends may not always reflect those.

No ideas! Really interesting that you will not let me go without filling it with less than 50 characters!

Trends might not be 100% reliable to collect miniscule details while trying to predict a medical conditions.

I think it is pretty efficient, since the data in google trends has the attribute of real-time and there are a lot of data contains in google trends, so I think it is pretty efficient.

I think everyone is a constant google now so these can be very useful.

Honestly I don't think the Google trends is going to help with the HAI, except for one case where there is a infection outbreak spreading throughout the country.

Not very much. Who will make sure the data is real???

I think google trends will be pretty effective for disease trends

I think this should be a high priority matter and should be taken care of as effectively as possible

3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare administrator saw the change, did an inspection, and realized that the waste disposal was not collected per schedule. The administrator then initiates a notification to whoever in charge of that task.

I'm not sure what google trends is, can't comment.

could potentially be effective but not sure that this gives a good context for local disease trends.

It could be very effective.

I am sceptical about the trend data as it generally is not practical to rely on past data

I don't really think that would have too much relevance. To me it would take a huge outburst of something to really set off google trends and by then people would already be aware of it.

No idea.....

It is only as good as the amount of users and the accuracy. Not everyone is on the internet. The usage of it would have to be mandated in order for it to be helpful.

No, nowadays we still need a doctor than a google

May want to use some kind of inter-hospital network instead. Idk how accurate google trends is.

If there is a local outbreak of disease, you can prevent visitors, or patients, (or quarantine them) to prevent the spread of it within the Hospital. It also depends on how accurate results you obtain from online trend data.

It can be effective but cyber security would also have to be increased.

Yes, it reflects the percent of the patients going in the hospital

Very effective in finding out the disease trends on a real time basis

so much info it will drive us nuts. Disease warfare is not our battle.

I'm not sure, I suppose this could be helpful if hospital staff reported the truth

It can help by give more information to the people

i would hope that it would be helpful, but concerned that it would get lost in the shuffle or the feed

Somewhat effective although there may be a whole chunk of inaccuracy

I think it would be moderately effective. If it records real time as well as produces stats on the past, there isn't a reason this wouldn't be effective unless someone failed to report in on the app.

No . She uses the twitter trend analytic module and notified that there are increasing negative tweets about people having issues related to stomach upset.

It could be helpful for people to know how likely they are to get an infection.

Im not sure with what google trends means

effectively and in a good way yes can be implemented

What ever the app of treatment is, the disease should be cured or erased in the future generation.

very useful..useful to keep track of what goes on and the activities that take place

I don't have much idea on this. But i hope google will be performing better.

was really effective and thats what I find it all about

Somewhat because it will show recent and current trends.

Yes google trends can help in identifying the past trend and can help in prediction.

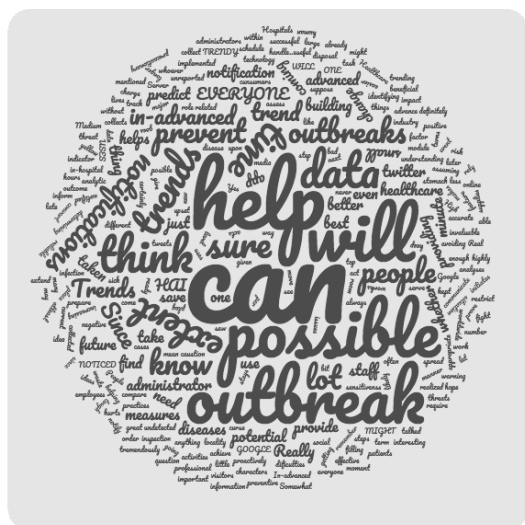
I can see that the trends would become less prevalent because the systems in place can prevent any wrong-doing caused by nurse error.

Google trends collect data from worldwide, so disease trend will help to gain knowledge about various diseases

It would probably be effective if you could manage to gather right data.

IT MIGHT BE A TRENDY ONE BECAUSE EVERYONE USES GOOGLE SO EVERYONE WILL BE NOTICED

To what extent the trends can help with providing in-advanced notifications for possible outbreak?



Target	Type	Sentiment
possible outbreak	positive	0.0698338
in-advanced notifications	positive	0.102653
atleast precautionary measures	neutral	
possible outbreaks	negative	-0.616506
small extent	negative	-0.67673
trends	negative	-0.281818
HAI threat indicator	negative	-0.22452
Real time data	neutral	

To what extent the trends can help with providing in-advanced notifications...

Medium to High. In advanced notification always helps in avoiding possible outbreaks. Or atleast precautionary measures can be taken.

No ideas! Really interesting that you will not let me go without filling it with less than 50 characters!

Since trends do not change minute by minute, I don't think it is very reliable. It could help collect data over a longer term.

I think it can help a lot to prevent possible outbreak. Since in many cases we can use the current trend to predict the future trend, and then we will know whether a risk will come.

In-advanced can be the best feature of the app, if successful it will be very beneficial.

I think it will just inform you that there is an outbreak. Other than that, I don't think it is going to help prevent the HAI at all.

65% positive about the impact. Real time data from healthcare professional will work better.

trends can help with providing in-advanced notifications for possible outbreak to great extent.

This could prove to be a highly effective thing in the event of possible outbreak

3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare administrator saw the change, did an inspection, and realized that the waste disposal was not collected per schedule. The administrator then initiates a notification to whoever in charge of that task.

what do you mean by trends, I'm not sure if that could provide any in-advanced notifications for possible outbreak.

a little bit. even if it doesn't, it never hurts to know about possible threats.

A lot.

It sure can provide the notifications for outbreaks but to what extent should we rely upon that is the tough question

I think once it is trending it might be too late to notify people as it is already being talked about.

No idea.....

Somewhat, I'm not sure of the extent as it would require more information than I have at the moment.

It is very important and I hope human can find it and find a cure to do that

Hospitals may be better able to order supplies to fight diseases they know are coming.

As mentioned above, it can serve as a potential warning to employees, or administrators, to assess whether they need to restrict the number of visitors, or new patients coming into the building. It can definitely prevent the outbreak of diseases within the building if preventive measures are taken on time.

I think it would help tremendously since everyone is online.

They can save a lot of time that are convert to save more lives in the future

Trends can predict an outbreak to a large extent as it analyses the disease data in a locality and can compare them.

stays on top of things, so we can move to the next step when ready

I suppose they can help to a small extent but remember that the in-hospital practices by the staff are most likely to spread infection, and these often go unreported and even undetected.

It can help people to know more about it through social media like twitter n Google

its just a way to communicate to the different level that there is a posible outbreak and to use caution, in my understanding

They can help to a small extent given the time sensitivenss of outbreaks.

Trends could most certainly help with possible outbreaks.

Yes . She uses the twitter trend analytic module and notified that there are increasing negative tweets about people having issues related to stomach upset.

People could see that there's a potential for an outbreak and take steps to prevent themselves from getting sick.

not sure with this one

Server down in app will be bad can b implemented, but with difficulties

Really am sure in helping with providing in-advanced notifications of the cunsumers

makes thing easier to handle..useful to keep track of what goes on and the activities that take place

Here trends play one of the major role. It helps a lot.

its acts as an advance need of people could a act it in a appropriate manner

It could help, but can't be the only determining factor.

This will proactively help in identifying the situation and give enough time for staff to prepare.

When advanced technology works with the healthcare industry anything is possible to achieve the best possible outcome.

Since trends collects data from worldwide all data will kept up to date

Trends would be invaluable, assuming the data is accurate.

IT MIGHT BE A TRENDY ONE BECAUSE EVERYONE USES GOOGLE SO EVERYONE WILL BE NOTICED

Please give any other information source rather than CDC you think that might helps to indicate any possible outbreak

Please give any other information source rather than CDC you think that mig...

Cannot think of any.

It is a user evaluation session. I don't have to give you ideas!

I do not know of any such sources.

I think maybe it is good to read some books written by previous people. Because sometimes history can tell us a lot about the current days, some trend of risk is similar during different time periods.

All the sources that can be responsible are covered.

Can't think of any.

data collection, real time, sensors and mobile technology can really help.

I do not have any other information source rather than CDC which I think that might helps to indicate any possible outbreak

3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare administrator saw the change, did an inspection, and realized that the waste disposal was not collected per schedule. The administrator then initiates a notification to whoever in charge of that task.

twitter, facebook, any thing with crowd sourcing potential.

World Health Organization (WHO), WebMD

Following trends on Twitter and facebook of people reporting symptoms of diseases.

I cant think of any from the top of my head right now

News articles. increased visits to urgent cares or something like that.

No idea.....

My guess is the the hospital itself knows when some things are at higher risk even before the CDC alerts them. Doctors office, urgent care centers would have some kind of data on trends they are seeing.

Human technology intelligent, NASA

N/A. I am not familiar with any other sources.

I'm not sure. Hard to comment since it is not my area of expertise.

Social media and emergency call centers.

Be more attentive and alert all the time. They must need like walkie talkie that can easily communicate to each other.

Survey details on the local hospitals

just keeping up on times and things. Seems more by the our.

Hospital staffs themselves could disclose with some honesty the truth about where HAI issues come from.

Social media

public radio channels, public tv, news channels and agencies, newspapers. etc. most hospitals have ways of doing announcements as well

None.

Yes . She uses the twitter trend analytic module and notified that there are increasing negative tweets about people having issues related to stomach upset.

If people could get alerts from texts on their phones like amber alerts it would alert a lot of people.

Well usually if there is a more than 2 patients in the same floor that had the same infection unrelated to their disease we take special precautions to prevent it from spreading

Wrong notification difficult to be implemented

Really superb source of possible break

I don't know at the moment

I don't know

yes it really indicate positive outbreak

Twitter, facebook.

Understand the cause of outbreak and some are man made also

The information would be produced and then distributed to the care providers for help in advanced notifications to anyone at risk including family,friends and patients with the technology in place.

I am not much aware about other sources

word of mouth or twitter!

IT MIGHT BE A TRENDY ONE BECAUSE EVERYONE USES GOOGLE SO EVERYONE WILL BE NOTICED

SCENARIO: A healthcare administrator notices that there is an increase in food poisoning cases got admitted into the hospital. She uses the twitter trend analytic module and notified that there are increasing negative tweets about people having issues related to "stomach upset". The healthcare administrator notifies her boss and the hospital then decided to get more nurses for the next shift. Your thoughts:



Target	Type	Sentiment
food poisoning	negative	-0.65856
good idea	positive	0.405451
highly positive scenario	positive	0.673989
twitter trend	negative	-0.846635
user evaluation	positive	0.678864
social media	negative	-0.805652
HAI threat indicator	negative	-0.22452
good way	positive	0.561684

SCENARIO: A healthcare administrator notices that there is an increase i...

- That's a highly positive scenario. If this actually comes into practice, it will helpful for the people and the hospital staff.
- I really don't think that you get a correct sense of user evaluation! Let me tell you, user evaluation is just the presentation of your product and asking about how satisfied the user is and how easy and accurate the product can be used by a user! I am not here to constantly tell you my opinion about each single step of your project!
- This seems like a decent response if the trends are specific to that area.
- This is pretty good. As I mentioned before, predicting and preventing risks before they happen is pretty a good way. And your application does a good job in this case.
- The prediction can always be useful rather than encountering a situation and acting upon it.
- OK this a good example showing how the trend module can help prevent HAI.
- Social media is truely a way to inform and collect data.
- This idea is great. Predicting future problems and preparing beforehand is good.
- This I think may not be effective every time since you cannot trust those data to 100%
- 3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare administrator saw the change, did an inspection, and realized that the waste disposal was not collected per schedule. The administrator then initiates a notification to whoever in charge of that task.
- Seems likely to happen in the future, a lot of people are looking at crowd sourcing for a potential solution to a lot of problems.
- i hadn't considered that helathcare workers could directly notify others of possible outbreaks. this would be very helpful.
- It sounds interesting and could be useful.

If we trust the reliability of the data and assume that the same trend will continue for the upcoming future, then its a great idea and execution

I guess that is a good thought. but I think just the influx of patients alone would indicate that there would be more staff needed.

No idea.....

Nice thought and idea and would work if everyone is on Twitter and someone is looking at it. I have had food poisoning and the last thing I was going to do was post on Twitter about it....or go to the doctor...so there is uncaptured information available....

That is good that thing make the victims very happy

Seems like a good idea. May want to make it automated instead. In this case, the nurse had to know what to search herself.

Sounds very efficient. But how are you going to analyze or filter the right information from twitter, or any other online media content? Practicality aside, it seems a really good idea, which could help makes hospital functioning smoother.

The notification should also be sent to local CDC offices so they can deal with it to.

The stomach upset has get high risk, that why the boss in the hospital need to increase the health administrator

There is a source for food poisoning in the locality

Tweets will get out of hand. Let doctors treat the patients.

I don't know that more nurses are necessary for food poisoning cases but at least the hospital is being proactive.

This will warn the hospital to make the stuff alert n inform them about the risk .it help the nurse to take action n inform people to take precaution . The social media can give more information about the disease n risk of getting disease.

smart. being proactive or preparing for more cases

I think data from such sources will need alot of scrubbing

I can see this causing a bit of an unnecessary panic.

She uses the twitter trend analytic module and notified that there are increasing negative tweets about people having issues related to stomach upset.

It sounds like it would be a great way to keep the hospital staffed during an emergency like that.

I guess this is okay but you cant just get nurses for the next shift randomly because of an outbreak. There is always enough for whatever amount of patients

not a big deal app not required , can b implemented

More staff should be appointed for the work. Only then the work will be very perfectible and can get a good support.

useful to keep track of what goes on and the activities that take place

That's a right move by the admin. He should do necessary arrangements.

this is a great thing that the administrator could immediately be aware of the situation

Good idea because she is noticing local trends and using them to predict an upcoming need for more staff.

Completely relying on twitter trend is not good and should take some other credible source of information before deciding

This idea seems like a top notch way to fix the problem and further facilitate the program in place.

Using twitter trends in such a good way is really goot

sounds terrible, food poisoning is the worst, i would know

I FELT IRRITATED BY ANSWER THIS QUESTION SINCE THERE IS NO NEED TO PROCEED LIKE THIS ,BECAUSE THE APP
WILL AUTOMATICALLY NOTICES

Please tell us some brief information about you (your background, experience and education)

Please tell us some brief information about you (your background, experienc...

I am Pooja. I am pursuing my Masters in CS at NCSU.

It is really unprofessional to force people to tell you about their background! I wish you read all my comments before discarding it! It may suggest you conduct better user evaluations in future!

I am currently a Masters student in Computer Science at NC State University. I finished a Bachelor's in Computer Engineering from Mumbai University in June 2016. I am happy to have contributed to this unique survey and I wish you good luck.

I am master of computer science student in our university, I come from China. And my undergraduate major is also computer science. I have done some surveys before so I have a basic understanding of surveys. And I think you guys have done a good job! :)

Computer Science, Masters student at North Carolina state University.

NCSU Computer Science graduate student. Taking CSC510 software engineering this semester.

Grad student, loves AI and tech. Focused on developing something unique in the near future.

I am PhD candidate in Computer Science with very limited knowledge of healthcare.

I am doing PhD in computer science and I am from India

3 hours later, the HAI threat indicator of room 1 turns yellow. Healthcare administrator saw the change, did an inspection, and realized that the waste disposal was not collected per schedule. The administrator then initiates a notification to whoever in charge of that task.

I am a first year PhD student, straight from bachelors. I have a girlfriend whose family are a bunch of nurses and doctors.

I am a computer science masters student at NCSU. I was born and raised in India. I did all my education before my masters in India.

Asian; Male; 25 years Age; Bachelor's in CS ;Worked 2 years s a software developer on a banking website.

I have a work experience of 1 year in the Analytics firm Musigma Business Solutions back in India. I was working as a Trainee Decision Scientist(Product developer). I also did my undergraduate from India, Nirma University. I love computer science and sincerely think that it has an impact to change the world, a simple example of which is your application

I am from the Raleigh area and I've been at State for undergrad and graduate. I'm about to graduate with my 5th year masters. I have very little experience with anything medical and have rarely needed to even visit a hospital for anything.

Not in the medical field.....

I am a working professional art director and graphic designer with 25+ years experience with Bachelors degree in Graphic Design. My background is in advertising, publishing, marketing and graphic design. I have some experience working at a non-profit for a large children's hospital and was required to take all infectious disease tests (annually), safe practices in dealing with bodily fluids tests (annually), immunizations and all hospital safety precautions even though I never came in contact with patients and was located in an off-site building. It was hospital policy that all employees have ongoing safety training and immunizations even if they were not involved in patient care. At the time I worked at the hospital, there was increase in TB cases so there was specific emphasis on making sure you had a TB test. I also have family members with autoimmune disorders and family members who have worked in hospitals and nursing homes for the past 30 years.

I am master degree from Viet nam. I am 30 yrs old and I am dong at medic nha trang

NCSU CS MS 2018 Some work experience with 4 summer internships 23, Male

I do not have any background in the medical industry. I am a Computer Science Masters student at NCSU. I have work experience in Applications Development in the Enterprise Resource Planning (ERP) domain.

I'm asian and in the US Navy. I will be graduated with a bachelors in several months.

I'm Male from Virginia, Single and take BS Accounting. My Annual income is about \$15,000

I am a Pharmacist working with a private firm having graduation in pharmacy.

This stuff sounds like it will drive you nuts. Like i say, "go nuts & blow nuts. "dunkin donuts "theme"

I am a registered nurse at Brookhaven Memorial Hospital. Have been there for 16 years.

I am a post graduates girl who is a teacher in the school .I take lots of precaution for my health n try to prevent myself from the viral disease.I.live in a joint family n have a big family .I am indian .I eduacte children to be clean n to be hygiene .

health unit coordinator, medical records, cna, cma, memory care

MA in CS, data analyst. Courses in AI and ML. Data analyst for multiple companies

I'm a 26 year old married individual. I have two dogs. I have had 2 emergency room visits. I have an AA in humanities and I will be continuing my education at a 4 year institution.

Nice but too hard. I really like complete this type survey. I face some problem complete some problem. Overall ok.

I am a white female. I am 36 years old. I have graduated high school. I am married with two children.

I'm an ICU nurse here at Oregon. I'm 27. I've been working as a nurse for 5 years.

Working with helathcare staffing , Having Bachelors degree

5 yrs of experience with post graduation degree and 30 yrs old, female, Asian.

I'm a 2 year college grad and i have been working on software for about 3 years

Working in IT company as Senior Software Engineer with 5.5 yrs of experience and I am from India.

I am Dominic Joseph. I qualified master's degree MBA, this survey really makes me aware of many things this was really as a guide marker to me.

I am a student and currently studying public relations. I have family in the medical field.

Software Architect and design engineer. B Tech and Post graduate in Management

Bachelors of Science - University of Phoenix Currently employed at Amazon.

I am a bachelor degree holder, works as a software developer for last 3 years

I have no health background, and fuck you for making me type so much. White wolf? Should be more witcher-related content.

I COMPLETED GRADUATE DEGREE, I AM AN SOFTWARE ENGINEER, I AM AN ASIAN THAT'S IT